

<p>IN THE UNITED STATES DISTRICT COURT FOR THE DISTRICT OF DELAWARE</p> <hr/> <p>HARRY SMITH, JR., and ROSLYN ) WOODARD SMITH, individually and ) as Administrators of the ESTATE ) OF HARRY SMITH, III, ) Plaintiffs, ) ) v. ) No. 04-1254-GMS ) CITY OF WILMINGTON, JOHN ) CIRITELLA, THOMAS DEMPSEY and ) MATTHEW KURTEN, ) Defendants. )</p> <hr/> <p>Videotape Deposition Upon Oral Examination of JON J. NORDBY, PH.D.</p> <hr/> <p>Taken at 3532 Soundview Drive West University Place, Washington</p> <p>DATE: Monday, April 2, 2007 REPORTED BY: Ronald L. Cook CCR, RMR, CRR</p>	<p>1 UNIVERSITY PLACE, WASHINGTON; MONDAY, APRIL 2, 2007 2 1:14 P.M. 3 --00-- 4 13:14 5 THE VIDEOGRAPHER: This is the videotape 6 deposition of Jon J. Nordby, Ph.D., Tape 1, Volume I, in the 7 case of Smith, et al., vs. City of Wilmington, et al., Case 8 No. 04-1254-GMS, in the United States District Court for the 9 Western District of Delaware. 13:14 10 Today's date is April 2nd, 2007, and the time 11 is 1:14 p.m. This deposition is taking place at 3532 12 Soundview Drive West, University Place, Washington, and was 13 noticed by John A. Parkins. The videographer is Dan Fisher, 14 for Premiere Realtime Reporting &amp; Videography. The court 13:14 15 reporter is Ron Cook, for Premiere Realtime Reporting. 16 Will counsel please announce their 17 appearances for the record, beginning on my right. 18 MS. SULTON: Attorney Anne Sulton appears on 19 behalf of the plaintiffs. 13:14 20 MR. PARKINS: I'm John Parkins. I represent 21 the defendants. 22 THE VIDEOGRAPHER: Will the reporter please 23 swear in the witness. 24 13:15 25 JON J. NORDBY, PH.D., deponent herein, being</p>
<p>1 2 3 For the Plaintiffs: ANNE T. SULTON 4 Post Office Box 2763 5 Olympia, Washington 98507 6 609.468.6029 7 annesulton@gmail.com 8 9 For the Defendants: JOHN A. PARKINS, JR. 10 Richards, Layton &amp; Finger 11 One Rodney Square 12 P.O. Box 551 13 Wilmington, Delaware 19899 14 302.651.7624 15 parkins@rlf.com 16 17 Also Present: DANIEL FISHER, Videographer 18 19 20 21 22 23 24 25</p> <p style="text-align: center; font-size: 2em; opacity: 0.5;">Draft Copy</p>	<p>2 3 4 5 first duly sworn on oath, 6 was examined and testified 7 as follows: 8 13:15 5 EXAMINATION 9 BY MR. PARKINS: 10 Q. Dr. Nordby, would you please tell us what is 11 forensic science? 12 A. Forensic science is a term that is used to 13 cover natural science as applied to the facts involved in 14 legal matters, so the word forensic literally means forum 15 or -- which means in the Latin I think something like for 16 public debate. So it's the application, it's -- forensic 17 science are applied sciences. 18 Q. Would you consider yourself to be a forensic 19 scientist? 20 A. Yes. 21 Q. Would you tell the jury what you were asked 22 to do in this particular case? 23 A. In this case I was asked to do the following, 24 review all the documentation that was provided to me in 25 terms of police reports, in terms of autopsy report, photographs, anything related to the physical evidence at the -- involving the incident under -- under question. And I was asked to assess the physical evidence in the light of</p>

<p>13:16 1 my areas of expertise and to attempt to -- insofar as the 2 nature of the evidence permits, provide some type of a 3 reconstruction of events, which is really at the heart of 4 what applied forensic sciences do or strive to do.</p> <p>13:16 5 <b>Q. Why don't you tell us what in your background 6 enables you to do such work.</b></p> <p>7 A. I've always been interested in puzzles and 8 solving puzzles, and my father's a physician, my mother an 9 artist, and I wanted to figure out how my dad could read an 10 x-ray and come up with a course of treatment by looking at 11 these mysterious shadows, and -- and so I found that my 12 interest was in the process of diagnosis or producing 13 medical explanations rather than specifically anything to do 14 with clinically treating patients. So I pursued my interest 15 by studying philosophy of science and logic and philosophy 16 of mathematics, with a twist to applied sciences. So in the 17 course of my education and training I pursued these -- these 18 areas throughout my entire life and continue to do so at 19 this point. And much of the work in forensic science 30 13:18 20 years ago, when -- when I was involved in my formal 21 education, comes from training and practical experience as 22 opposed to specific courses of study, which they have today.</p> <p>23 <b>Q. So when you were in college were there 24 frequent colleges with majors in forensic science?</b></p> <p>13:18 25 A. No.</p>	5	<p>13:20 1 <b>Q. Have you worked for any other governmental 2 agencies other than Pierce County?</b></p> <p>3 A. Yes. Worked for King County, which is 4 Seattle, doing medicolegal death investigations. I was also 13:20 5 in both areas heavily involved in writing training materials 6 for investigators, for pathologists. I also taught at the 7 Washington State criminal justice training commission, where 8 I provided training for medical examiners and deputy medical 9 examiners in how to process crime scenes, how to collect, 13:21 10 process and store evidence, especially blood-related 11 evidence.</p> <p>12 <b>Q. Have you done any consulting work for 13 governmental agencies?</b></p> <p>14 A. Yes. I -- I currently am a member of what's 13:21 15 called SWGSTAIN, which is the scientific working group in 16 blood stain pattern analysis, and that's with the FBI lab 17 in -- in Washington, D.C. I've been a member of the group 18 and my -- my job is to write protocols for the scientific 19 approach to crime scenes involving blood-stained pattern 13:21 20 analysis, and the physics of understanding mechanisms of 21 injury that produce blood at crime scenes.</p> <p>22 <b>Q. Have you ever done any work in connection 23 with September 11th?</b></p> <p>24 A. Yes. I'm a member of D more the team 1010 --</p> <p>13:22 25 <b>Q. Would you explain what D more the team 10 is?</b></p>	7
<p>13:18 1 <b>Q. Tell us a little bit about your employment 2 experience insofar as it relates to forensic science.</b></p> <p>3 A. I accepted a position at Pacific Lutheran 4 University as a professor -- new professor at the rank of 13:18 5 assistant processor in 1977, knowing that Pierce County, 6 which is the county where we -- we live and where the 7 university is situated, is changing from a -- an old-time 8 coroner system, which is an elected official involved in 9 death investigation, to a medical examiner system, which is 13:19 10 a system which requires board certified forensic 11 pathologists, and I thought it would be interesting to be 12 involved in -- in the development of an -- an office. 13 My teaching duties included making 14 connections between law enforcement and the academic world.</p> <p>13:19 15 I set up courses in critical thinking and writing, which is 16 one of the areas that I covered in my study of the 17 production and defense of scientific explanations.</p> <p>18 <b>Q. Did you play any role in investigation of 19 deaths in Pierce County?</b></p> <p>13:19 20 A. Yes. As Part my training I did what's called 21 a preceptorship in forensic medicine with Dr. Emanuel 22 Lacsina, who was then chief medical examiner in Pierce 23 County, and I -- I pursued this course of study for six 24 years, and essentially while pursuing that I was involved in 13:20 25 investigations of deaths in Pierce County.</p>	6	<p>13:22 1 A. D more the is -- at the time when it was 2 started was part of a national disaster medical service, and 3 it since became under the guise of Homeland Security. I am 4 a founding member of the department of Homeland Security, 13:22 5 which is an honor that was given to those of us who worked 6 at the 911 twin towers. My job was autopsy examination of 7 human remains, and specifically to find medical appliances, 8 remove them and look for serial numbers, for example, in any 9 medical device that might be among the remains. Also to 13:23 10 catalog and organize the remains so that we might apply 11 various techniques to help identify the victims. 12 I also removed various specimens for forensic 13 odontologists, who are dentists who were charged with 14 comparing postmortem dental records with any anti more item 13:23 15 records that were available, in the hope of identifying 16 victims.</p> <p>17 <b>Q. By antemortem, you mean before the victims 18 died?</b></p> <p>19 A. Before the death occurred, yes.</p> <p>13:23 20 <b>Q. Have you had occasion to deliver any lectures 21 on forensic science issues?</b></p> <p>22 A. Yes, for many years, since the focus of my 23 intellectual work was medical diagnosis and the problems 24 associated with inference, which is a branch of logic, I 13:24 25 brought that to my training and my experience with forensic</p>	8

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13:24	1	science and forensic medicine, both formally and informally	13:28	1	<b>forensic sciences?</b>
	2	in terms of my work experience. But I -- I was able to		2	A. Yes, that's correct.
	3	teach courses which I was to develop for Pacific Lutheran		3	<b>Q. And you're a board member?</b>
	4	University, I -- I set up courses in which I lectured,		4	A. I was a board member, yes.
13:24	5	obviously. I also gave many presentations in areas of my	13:28	5	<b>Q. Tell me what is involved when you were</b>
	6	research and areas of my work to various forensic science		6	<b>certified by the American Board of Medicolegal Death</b>
	7	on, which are peer reviewed, and I've published papers,		7	<b>Investigators.</b>
	8	chapters of books, two of my own books, one edited with a		8	A. We have both a practical requirement and a --
	9	colleague, which is a textbook in forensic science and		9	an academic requirement. The practical requirement involves
13:25	10	medicine, and my own book on the process of the logical and	13:28	10	a certain number of hours of supervision doing medicolegal
	11	philosophical foundations of forensic science involving the		11	death investigation, which involves examining decedents at
	12	production and defense of explanations. That's called dead		12	scenes of sudden or violent death or unexpected death,
	13	reckoning, the art of forensic detection.		13	unattended deaths, hospital deaths in some cases, so there's
	14	<b>Q. When were your books published?</b>		14	a wide range of -- of different cases that fall under the
13:25	15	A. My first book was published in 1999. My	13:29	15	jurisdiction of the medical examiner. So the duties are --
	16	second -- first edition of my second was in 2002, I believe,		16	are varied. So we wanted a practical component to require a
	17	or -- I -- I'm not sure.		17	certain number of hours and certain number of quality of
	18	<b>Q. Is there any board which certifies forensic</b>		18	level of participation in death investigation.
	19	<b>scientists?</b>		19	Then, since this is also involves an academic
13:25	20	A. The -- the answer is somewhat complex,	13:29	20	area a specialization that requires some medical knowledge
	21	meaning that there are several parts to it. Some areas have		21	as well as practical training, there is a written
	22	developed board certification processes in an attempt to		22	examination as well as a practical examination that -- that
	23	standardize practice and protocols in the forensic sciences,		23	one has to complete.
	24	to avoid the sort of hit and miss kind of lapses in training		24	In addition, to remain current and maintain
13:26	25	and preparation that one can find in medical examiner --	13:29	25	board certification, there are continuing medical education
		10			12
13:26	1	examiners' offices, coroners' offices, or in sheriff's	13:29	1	credits which have to be earned, and those are earned by
	2	departments, police departments and so forth. The most		2	attending courses which the American Board of Medicolegal
	3	obvious is in forensic medicine, forensic pathology, is a		3	Death Investigators approves and gives certain number of
	4	specialization which has a board certification much like any		4	hours credits for.
13:26	5	other specialty, such as internal medicine or radiology or	13:30	5	For example, in my involvement with the FBI
	6	psychiatry or other -- other branches, but that wasn't		6	in SWGSTAIN, we meet twice a year for a week to conduct
	7	established until 1959 in the United States, so -- other		7	research to do work to advance the forensic science of
	8	forensic sciences have followed. There are various		8	blood-stained pattern analysis, and those hours would be
	9	accrediting agencies, some of which require certain number		9	applicable for continuing medical education for the board.
13:27	10	of hours of experience and some which focus on training and	13:30	10	So those are the components necessary.
	11	so on.		11	<b>Q. Dr. Nordby, as you wrote a written report for</b>
	12	<b>me at my request, did you not?</b>		12	<b>me at my request, did you not?</b>
	13	A. Yes.		13	A. Yes.
	14	<b>Q. By whom are you board certified?</b>		14	<b>Q. And did you attach to your written report a</b>
13:27	15	A. The American Board of Medicolegal Death	13:31	15	<b>curriculum vitae?</b>
	16	Investigators is a -- an organization that was started with		16	A. Yes, I did.
	17	an effort to help provide some standards for death		17	<b>Q. I'm going to ask you -- I'm going to show you</b>
	18	investigation in the United States. There were prior to		18	<b>what I believe to be your curriculum vitae and ask you if</b>
	19	this organization no certifications, no training		19	<b>this is what you prepared for me.</b>
13:27	20	requirements and so forth to become a medicolegal death	13:31	20	A. Yes.
	21	investigator. And this problem was addressed by members of		21	<b>Q. Does this reasonably and fairly summarize</b>
	22	the American academy of forensic sciences. I've been a		22	<b>your professional accomplishments in the field?</b>
	23	board member in that organization, I've been a member for		23	A. Yes.
	24	many years, and was on their ethics committee for 10 years.		24	<b>Q. I'd like to have the court reporter mark this</b>
13:28	25	<b>Q. So you're a member of the American academy of</b>	13:31	25	<b>as Exhibit 1, Nordby Exhibit 1, please.</b>

		13		15
13:31	1	<b>(Deposition Exhibit 1 was marked</b>	13:35	1 an advocate for any particular side. The results of my
	2	<b>for identification.)</b>		2 scientific endeavors would be the same whether I was working
	3	<b>Q. BY MR. PARKINS: Dr. Nordby, have you ever</b>		3 for the plaintiff or the defendant. There would be no
	4	<b>been qualified by a court as an expert witness in the fields</b>		4 difference. And I indicate that in this letter of
13:32	5	<b>of forensic science?</b>	13:36	5 engagement, which I ask my prospective clients to sign
	6	A. Yes.		6 before I begin any work in -- on the data.
	7	<b>Q. Tell me how often that has occurred.</b>	7	<b>Q. Have you ever worked for me or my law firm</b>
	8	A. I'd have to look at my record. I don't --	8	<b>before?</b>
	9	it's been enough times that I can't remember.	9	A. No, sir.
13:32	10	<b>Q. If I were to hand you a document which you</b>	13:36	10 <b>Q. Have you ever worked for the Wilmington</b>
	11	<b>attached to your report, is this the record that you had to</b>	11	<b>Police Department before?</b>
	12	<b>look at?</b>	12	A. No, sir.
	13	A. Yes, and I always try to put a date at the	13	<b>Q. You're -- this deposition is being taken in</b>
	14	top of both my vita and my court experience, indicating that	14	<b>your offices and laboratory in Washington state; is that</b>
13:32	15	it's current through that date, because an additional case	13:36	15 <b>correct?</b>
	16	may come and need to be added. But yes.	16	A. That's correct.
	17	<b>Q. Without bothering to count the number of</b>	17	<b>Q. Is it fair to say that last fall you were</b>
	18	<b>times, can you estimate for us the number of times that you</b>	18	<b>diagnosed with a serious illness?</b>
	19	<b>have been qualified by a court to give expert testimony?</b>	19	A. Yes.
13:33	20	A. 25 or 26 times.	13:36	20 <b>Q. Does that -- your illness allow you to travel</b>
	21	<b>Q. And these are various courts around the</b>	21	<b>across the country to testify live before the jury in this</b>
	22	<b>country?</b>	22	<b>matter?</b>
	23	A. Yes, sir. They are various jurisdictions in	23	A. No.
	24	the United States and in Canada. They're both federal court	24	<b>Q. Do you understand that your deposition today</b>
13:33	25	and state court.	13:37	25 <b>is being conducted in lieu of your live testimony before the</b>
		14		16
13:33	1	<b>Q. Dr. Nordby, let's take a quick look at your</b>	13:37	1 <b>jury?</b>
	2	<b>role as an expert in this particular case. Are you being</b>	2	A. Yes.
	3	<b>compensated for your time by the defendants?</b>	3	<b>Q. Let's focus again, if we could, on your</b>
	4	A. Yes.	4	<b>assignment. What did you do to analyze the evidence in this</b>
13:34	5	<b>Q. Would you please tell the jury how much you</b>	5	<b>case?</b>
	6	<b>are charging the defendants for your time.</b>	6	A. Well, the first step is to assemble the
	7	A. My time is billed at \$275 an hour. For long	7	available evidence and to understand the scope and nature of
	8	days, many involving more than 12 hours, I bill a flat rate	8	the questions that might be posed to that evidence, so
	9	of \$3,000 a day. For courtroom testimony I bill at the rate	9	police reports, anything that involves the collection
13:34	10	of \$500 per hour. Much of that is to account for the	10	process and documentation of physical evidence would be
	11	overhead of our laboratory, which is quite an expensive	11	something I need to see, as well as that physical evidence
	12	operation to run.	12	itself.
	13	<b>Q. Is your compensation in this case in any way</b>	13	<b>Q. Did you ask me for any documents or</b>
	14	<b>dependent upon the outcome of the case?</b>	14	<b>information that I refused to give you?</b>
13:34	15	A. No, not at all. In fact, the -- the way that	13:37	15 A. No.
	16	I conduct my consulting practice is that I provide a letter	16	<b>Q. Did you visit the scene of this incident?</b>
	17	of engagement, which states basically that as a forensic	17	A. Yes, I did.
	18	scientist my job is to develop physical evidence, to assess	18	<b>Q. Did you examine the automobile which</b>
	19	that evidence within the limitations of my own experience	19	<b>Mr. Smith was driving at the time of this incident?</b>
13:35	20	and expertise in the relevant science, and to provide an	13:38	20 A. Yes, I did.
	21	explanation of why if we are unable to do any inferences --	21	<b>Q. How long did you spend examining the</b>
	22	to support any inferences from the data, why -- why that's	22	<b>automobile with -- that Mr. Smith was driving?</b>
	23	the case. I am bound to the best methods of forensic	23	A. Approximately a week. We analyzed the damage
	24	science and medicine that I can maintain to come up with	24	to the vehicle, trying to document anything that involved
13:35	25	what the facts show. In that sense, my role is not one of	25	the shooting, we tried to examine everything relating to the

		17			19
13:38	1	blood shed and the incident that occurred, fractures of	13:42	1	<b>Q. Incidentally, so that we can make this</b>
	2	glass and the nature of the damage to the vehicle.		2	<b>absolutely clear, the vehicle in this photograph is the</b>
	3	<b>Q. Did you test fire any weapons that were</b>		3	<b>vehicle which Mr. Smith was driving at the time of this</b>
	4	<b>involved that evening?</b>		4	<b>incident?</b>
13:38	5	A. Yes.	13:42	5	A. That's my understanding, that's correct.
	6	<b>Q. Did you examine any materials for gunshot</b>		6	It's Patrol Car 1180.
	7	<b>residue?</b>		7	<b>Q. Would you do me a favor, please, and turn to</b>
	8	A. Yes.		8	<b>Page I believe it's 38, which I believe is clipped.</b>
	9	<b>Q. I'm going to show you a few photographs that</b>		9	A. 37?
13:39	10	<b>you have previously submitted to us and we have shared with</b>	13:42	10	<b>Q. 38.</b>
	11	<b>the -- with Ms. Sulton, and before we do that, I'm going to</b>		11	A. Okay.
	12	<b>ask the court reporter to mark them one by one, and I'm</b>		12	<b>Q. Would you hand that to the court reporter,</b>
	13	<b>going to ask you in connection with each photograph to just</b>		13	<b>and I'll ask him to mark this as Exhibit 3.</b>
	14	<b>tell the jury briefly what is happening in these photos.</b>		14	<b>(Deposition Exhibit 3 was marked</b>
13:39	15	<b>Let's ask the court reporter to please mark</b>		15	<b>for identification.)</b>
	16	<b>as the first exhibit, I guess it would be No. 2.</b>		16	THE WITNESS: Okay.
	17	<b>(Deposition Exhibit 2 was marked</b>		17	<b>Q. BY MR. PARKINS: Tell the jury what this</b>
	18	<b>for identification.)</b>		18	<b>photograph depicts.</b>
	19	<b>Q. BY MR. PARKINS: Incidentally, Dr. Nordby,</b>		19	A. The top photograph shows how we determine
13:40	20	<b>did you take these photographs?</b>	13:42	20	the -- what's called the -- the Z axis, the point in space
	21	A. Yes, I did.		21	in the air vertically where a particular bullet entry or
	22	<b>Q. Can you estimate for us how many photographs</b>		22	exit, depending, has occurred, and we use lasers to
	23	<b>you took as part of your investigation?</b>		23	accomplish this, and this process involves setting up the
	24	A. It would be very difficult to estimate, but		24	equipment, determining angles and measuring those angles
13:40	25	hundreds.	13:44	25	using lasers. Since the development of the Ruby laser it's
		18			20
13:40	1	<b>Q. Okay.</b>	13:44	1	become much easier to accomplish these measurements at -- at
	2	A. Including photomicrographs.		2	various crime scenes, and it becomes much easier to
	3	<b>Q. What are photomicrographs?</b>		3	understand the dynamics of a shooting when you can
	4	A. Photomicrographs are images that are taken		4	understand where the exits and entries occur.
13:40	5	through a microscope. Sometimes they are incorrectly	13:44	5	The hope is to provide a map of the shooting
	6	referred to as microphotographs, which would be very, very		6	sequence, not with the ability, necessarily, to tell which
	7	small pictures. These indeed are images that are taken		7	shot came first and second but to help understand the
	8	through a microscope.		8	patterns that the shots in this case must conform to and the
	9	<b>Q. Would you take a look at the first one, which</b>		9	physical description of their trajectories.
13:40	10	<b>is on I believe Page 1, that the court reporter has been</b>	13:44	10	<b>Q. Why not use plastic dowels or metal dowels to</b>
	11	<b>kind enough to mark.</b>		11	<b>do the same thing?</b>
	12	A. Yes.		12	A. There are several different methods that are
	13	<b>Q. Would you please tell the jury what is</b>		13	suitable. The difficulty with metal dowels, and again, the
	14	<b>happening in the upper photograph in -- in this collection.</b>		14	difficulty with any measurement technique, is that it
13:41	15	A. Yes. This is documenting the process that I	13:45	15	requires an understanding of the materials involved in the
	16	used to provide information about bullet entrances and exits		16	shooting. In this case a car as very complex collection of
	17	in the vehicle. This top photograph shows the plum bob and		17	glass, different types of glass, safety glass and tempered
	18	a laser level and angle determining dial, which we use to		18	glass, then metals of different types, plastics, rubber,
	19	document three dimensions of the impact of a bullet with the		19	cloth, and each of those materials will respond slightly
13:41	20	vehicle. We essentially treat the vehicle as if it were on	13:45	20	differently to the passage of a bullet, and it also depends
	21	an XYZ axis, which is a way of giving numbers running across		21	on the type of ammunition. So what we're -- what we're
	22	the front of the vehicle, numbers running the length of the		22	trying to do is to appreciate the fact that bullets, while
	23	vehicle, and then numbers running the height of the vehicle.		23	for the most part they travel in straight lines, when they
	24	And the photographs here depict that process of setting up		24	hit a target they -- there is a deflection or some sort of
13:42	25	the measuring devices to accomplish this examination.	13:46	25	change in the direction of that projectile.

		21			23
13:46	1	Metal rods traditionally have been used and	14:01	1	<b>May I see the book for a second, please?</b>
	2	put together to accomplish this approximation of a		2	A. Yes.
	3	trajectory, but sometimes it becomes potentially misleading.		3	MR. PARKINS: I'm going to ask the reporter
	4	If we think that because it's -- demonstrates a straight		4	to please mark as Exhibit 5 Page 48.
13:46	5	line with a -- with a trajectory rod, that that was the path	14:02	5	(Deposition Exhibit 5 was marked
	6	of the bullet. The laser allows us a higher degree of		6	for identification.)
	7	control over the angle and the measurement so that we can		7	<b>Q. BY MR. PARKINS: Does Exhibit 5 depict a</b>
	8	appreciate deflections more easily. Also, there isn't the		8	<b>similar effort as you just described to us in connection</b>
	9	need to touch or damage potentially change the entrance or		9	<b>with 41?</b>
13:46	10	exits of the projectiles when we use a laser, since light	14:02	10	A. Yes.
	11	simply passes through.		11	<b>Q. Okay. Can we take -- let's see this book for</b>
	12	<b>Q. How could you see, by the way, the path of</b>		12	<b>a second.</b>
	13	<b>the laser beam?</b>		13	<b>Can I ask the court reporter to mark as</b>
	14	A. What we do is we examine the vehicle, in this		14	<b>Exhibit No. 6 Page 91.</b>
13:47	15	case in a confined controlled environment, where we	14:03	15	<b>(Deposition Exhibit 6 was marked</b>
	16	introduce fog or smoke. It's a particular benign sort of		16	<b>for identification.)</b>
	17	particulate that is suspended in the air, and the laser		17	<b>Q. BY MR. PARKINS: What does Page -- Exhibit</b>
	18	simply shows on those suspended particles.		18	<b>No. 6 show?</b>
	19	<b>Q. So you put the vehicle in a closed garage and</b>		19	A. This is -- represents the documentation and
13:47	20	<b>fill it with smoke or fog and then take the photographs?</b>		20	measurements that were -- were done for the shots that came
	21	A. Yes.		21	through the rear window of Patrol Car 1180 and also instruct
	22	<b>Q. Would you take a look, please, at Page 41.</b>		22	Plexiglas slider between the rear passenger compartment and
	23	<b>And I'm going to ask that ask you to hand</b>		23	the front of the -- front seat of the vehicle. The numbers
	24	<b>that to Ron and have him mark it as -- Exhibit 4, is it?</b>		24	and letters are used to help us orient and -- and document
13:48	25	THE REPORTER: Yes.	14:04	25	each of the particular bits of damage. A commonly, although
		22			24
13:48	1	(Deposition Exhibit 4 was marked	14:04	1	not always, is an entrance, B is an exit, although not
	2	for identification.)		2	always, it's not a hard-and-fast rule, but as long as we
	3	THE WITNESS: I need to get some water.		3	understand that part of the effort is to understand
	4	MR. PARKINS: Let's take a short break,		4	entrances and exits, fracture patterns as they apply or
13:48	5	please.	14:04	5	don't apply, and what -- whatever else the physical evidence
	6	THE VIDEOGRAPHER: We're going off the		6	here can show us about each of those sets of impacts.
	7	record. The time is 1:48 p.m. Please stand by.		7	<b>Q. Based upon the information that you gleaned</b>
	8	(Short recess.)		8	<b>from this undertaking, did you attempt to approximate the</b>
	9	THE VIDEOGRAPHER: We're back on the record.		9	<b>trajectories of the bullets that were fired at the police</b>
14:00	10	The time is 2:00 p.m.	14:05	10	<b>car?</b>
	11	<b>Q. BY MR. PARKINS: What does 41 depict?</b>		11	A. Yes. Yes. And again, the -- the notion of
	12	A. The -- the top photograph shows the		12	importance here is reliability to make determinations of
	13	orientation of a bullet crease and its size and place in		13	entrances and exits, not always precision or exacting
	14	three-dimensional space. We also use at least three		14	measurements, because the different materials according to
14:00	15	different applications of method where possible to produce a	14:05	15	the research that I have done by firing suitable ammunition
	16	measurement. Because there are factors that can influence		16	through different types of materials have what are called
	17	one method over another, such as error rates or other issues		17	deflection angles, and those deflection angles can vary
	18	of more technical scientific sort, I will use trajectory rod		18	with -- with the material, with the type of ammunition
	19	and a laser and simple mathematics to determine what we can		19	that's used, and sometimes even with the environment, that
14:01	20	from a particular bullet impact in this case, and that's	14:05	20	is, whether the surface is wet or not wet, and so on. So
	21	what that depicts. It shows the plum bob orienting vertical		21	the -- the effort is to -- to document each of those bits of
	22	space and it shows the angle of impact with the trajectory		22	data and record the result.
	23	rod, and then a suitable measuring device, which gives us a		23	<b>Q. Is it possible to determine which shot was</b>
	24	scale for the whole process.		24	<b>fired first?</b>
14:01	25	<b>Q. Thank you.</b>	14:06	25	A. No.

		25			27
14:06	1	<b>Q. Based upon your examination, do you have any conclusions as to whether your findings are consistent or inconsistent with the positions of the defendant police officers as they've described them in their depositions?</b>	14:11	1	<b>Q. Okay.</b>
14:06	2		2		<b>Would you take a look at Page 8 and tell us briefly what is there.</b>
14:06	3		3		
14:06	4		4		
14:06	5	A. Without recalling every detail, it certainly	14:11	5	<b>Q. Exhibit 8. I'm sorry.</b>
14:06	6	is consistent with the story that was provided to me in	6		A. Yes. This, again, shows two -- two
14:06	7	those depositions.	7		photographs. The top photograph compares a known with an
14:06	8		8		unknown -- a known cartridge case fired through this
14:06	9	<b>Q. Did you see any evidence that the car was struck by anyone standing on the side of the car, on the</b>	9		particular pistol, Officer Ciritella's pistol, and an
14:07	10	<b>driver's side?</b>	14:11	10	unknown item from Harrison Street, found at the scene. And
14:07	11	A. On the driver's side, no. All of the impacts	11		again, these are firing pin impressions in the primer of the
14:07	12	that were documented either came from behind -- from the	12		cartridge, and the firing pin on a pistol will leave
14:07	13	rear of the vehicle or toward the rear and to the right	13		characteristic impressions that can be analyzed in terms of
14:07	14	side, that would be the passenger side of the vehicle, and	14		their class as well as individual characteristics.
14:07	15	those opinions are based upon the damage to the vehicle and	14:12	15	<b>Q. Do you have an opinion as to whether the same</b>
14:07	16	the type of damage that we see to the vehicle.	14:12	16	<b>weapon fired both of -- used -- excuse me. Do you have an</b>
14:07	17		14:12	17	<b>opinion as to whether the shell casings were both fired from</b>
14:07	18	<b>Q. May I see the photos for a second, please.</b>	14:12	18	<b>the same weapon?</b>
14:07	19	I'm going to ask the court reporter to mark	14:12	19	A. Yes, they were.
14:07	20	as Exhibits 6 and 7 two photographs that appear in Appendix	14:12	20	<b>Q. Okay.</b>
14:07	21	<b>Part 3, Pages 1 and 3.</b>	14:12	21	<b>One last photograph to look at, please.</b>
14:07	22	THE REPORTER: Counsel, this is 7 and 8.	14:12	22	I'm going to ask the reporter to mark as
14:07	23	MR. PARKINS: Thank you.	14:12	23	<b>Exhibits 9, I believe, Page 4 from Part 7 of the appendix.</b>
14:07	24	(Deposition Exhibit 7 was marked	14:12	24	<b>(Deposition Exhibit 9 was marked</b>
14:07	25	for identification.)	14:12	25	<b>for identification.)</b>
14:09	25	<b>Q. BY MR. PARKINS: Dr. Nordby, would you take a</b>			
		26			28
14:09	1	<b>look at Exhibits 7 and 8 and tell us if you took these photographs.</b>	14:13	1	MR. PARKINS: Is that 9?
14:09	2		2		THE REPORTER: Yes.
14:09	3	A. Yes, I did.	3		<b>Q. BY MR. PARKINS: Without any detailed</b>
14:09	4		4		<b>scientific explanation, can you just briefly tell us what</b>
14:09	5	<b>Q. Briefly, what do they depict?</b>	5		<b>Exhibit 9 represents?</b>
14:09	6	A. These are comparisons of test-fired bullets	6		A. This is a graph, which represents spectra
14:09	7	from a particular pistol, with a serial number SAF0327, and	7		from x-ray fluorescence analysis of particular items. In
14:09	8	they're compared with the bullet recovered by the medical	8		this case it's the headliner from the driver's side of
14:09	9	examiner from the decedent, Mr. Harry Smith the 3rd, and	9		Patrol Car 1180. And what -- what this does is x-ray
14:10	10	these photographs were taken with a comparison microscope	14:14	10	fluorescence is a -- a scientific technique that we use to
14:10	11	and documented showing the -- the physical features of each.	14:14	11	determine the elements that are present in a particular
14:10	12	<b>Q. In your opinion does the -- the bullet which</b>	14:14	12	sample, and x-ray fluorescence works particularly well on
14:10	13	<b>was retrieved from Mr. Smith match the test bullet that --</b>	14:14	13	melts.
14:10	14	<b>that you fired?</b>	14:14	14	<b>Q. Were you looking for any particular elements</b>
14:10	15	A. Yes, both class and individual	14:14	15	<b>in -- in this study?</b>
14:10	16	characteristics show that the bullet recovered from	14:14	16	A. Yes. When a -- a cartridge is fired in a
14:10	17	Mr. Harry Smith the 3rd was fired through that particular	14:14	17	pistol such as Officer's Ciritella's pistol a primer is
14:10	18	pistol.	14:14	18	struck by the firing pin and that primer initiates the burn
14:10	19	<b>Q. Do you have an understanding who that pistol was used by?</b>	14:14	19	for the gunpowder to fire the bullet through the pistol, and
14:10	20	A. Yes. I was told that it was Officer	14:14	20	characteristically there's antimony, barium and lead in most
14:10	21	Ciritella's pistol.	14:14	21	primers, and one indicator of the proximity of a -- the
14:10	22	<b>Q. Thank you.</b>	14:14	22	discharge of a firearm to a particular target is the
14:10	23	<b>Was this the bullet that was retrieved from</b>	14:14	23	presence of antimony, barium and lead fused as one particle.
14:10	24	<b>Mr. Smith's brain?</b>	14:15	24	<b>Q. Did you find any evidence of antimony, barium</b>
14:11	25	A. Yes, I believe so.	14:15	25	<b>and lead in the headliner of the car?</b>

		29			31
14:15	1	A. No.	14:18	1	the same type of ammunition with the same amount of powder,
	2	<b>Q. Did you similarly analyze the clothing worn</b>		2	the same general configuration and design as those used by
	3	<b>by Mr. Smith at the time of this event?</b>		3	the Wilmington Police Department at the time of this
	4	A. Yes, I did.		4	shooting.
14:15	5	<b>Q. Did you find any antimony, barium or lead on</b>	14:19	5	The measurements were taken showing the --
	6	<b>his clothing?</b>		6	the location that ejected cartridge cases would fall when
	7	A. No, I did not.		7	discharged from the weapon, and there's a wide variety, as
	8	<b>Q. What does the absence of such a finding tell</b>		8	one would expect, of distances which were documented and put
	9	<b>you?</b>		9	together in a chart.
14:15	10	A. Well, one has to be careful whenever one	14:19	10	<b>Q. Did you use the same kind of ammunition as</b>
	11	infers from the absence of something, but certainly in this		11	<b>Detective Ciritella was using that night?</b>
	12	case, considering other factors, as well, that -- the		12	A. Yes.
	13	conclusion is that we can't say that any of those items,		13	<b>Q. What general conclusions can you reach as to</b>
	14	whether it be headliner or clothing, was within three feet		14	<b>the pattern of ejection of the shells -- shell casings?</b>
14:15	15	of the discharge of a -- of a firearm.	14:19	15	A. That the particular pistol discharges its
	16	<b>Q. If someone had stuck a firearm into the car</b>		16	spent cartridge cases slightly backward and to the right,
	17	<b>to shoot Mr. Smith, would you have expected to find those</b>		17	which is the design of the weapon. Also, depending on the
	18	<b>elements in the materials you tested?</b>		18	particular location that the shooter holds the weapon, it's
	19	A. Yes, I would expect to find them.		19	possible and it happened several times that the ejected
14:16	20	<b>Q. Let's move on to your conclusions for a few</b>	14:20	20	cartridge casing hit the shooter, and sometimes went higher,
	21	<b>minutes. And I'd like to focus your attention first on the</b>		21	sometimes went lower, but the cartridge cases seemed to spin
	22	<b>events on 5th Street. The plaintiffs in this case I believe</b>		22	and stay in the air for some period of time rather than just
	23	<b>contend that Mr. Smith was trying to drive away from</b>		23	go straight down.
	24	<b>Detective Ciritella on 5th Street and the defendants contend</b>		24	<b>Q. What does the fact that there was one of</b>
14:16	25	<b>that Mr. Smith was driving towards Detective Ciritella on</b>	14:20	25	<b>Detective Ciritella's shell casings found in the car tell</b>
		30			32
14:16	1	<b>the 5th street. What does the physical evidence tell us</b>	14:20	1	<b>you?</b>
	2	<b>about what happened at that time?</b>		2	A. Well, that tells me given the testing that
	3	A. The physical evidence indicates that Patrol		3	we -- we did -- that I did with -- with respect to the
	4	Car 1180 was going toward the position that Officer		4	ejection patterns -- that tells me that within a range of
14:17	5	Ciritella had taken at the corner and was going toward and	14:21	5	distances we -- we -- we can put that cartridge case and
	6	past him.		6	its -- the fact that it's a spent cartridge case in
	7	<b>Q. And what physical evidence tells us that?</b>		7	proximity with that squad car, so that in order for that
	8	A. There are several factors. One is the		8	cartridge case to be in the front seat along the center
	9	presence of glass on the corner. The glass is from the side		9	console area of the squad car, the squad car and the ejected
14:17	10	window, at least it is typical of side window glass from	14:21	10	cartridge case had to be very close to each other in -- in
	11	the -- from the properly car. It is tempered glass. Then		11	space and time.
	12	also there are two cartridge cases that were fired through		12	<b>Q. Would that suggest the direction in which the</b>
	13	over Ciritella's pistol that were found, one in the vehicle		13	<b>squad car was driving?</b>
	14	itself in the front seat of the -- of the properly car, and		14	A. It -- it would. It would suggest that the
14:17	15	one found in the windshield wiper well of the vehicle, and	14:21	15	car was moving -- if we're facing at direct -- sideways,
	16	the other factor are -- involves tire impressions and tire		16	facing the passenger door, that it was moving from -- from
	17	marks, and the impact between the properly car and a parked		17	left to right, and that since the pistol ejects cartridge
	18	vehicle, which was a white Jeep.		18	cases also to the -- to the right and slightly backward and
	19	<b>Q. Let's -- let's focus for a moment on the</b>		19	upward, that the cartridge case came through the window of
14:18	20	<b>shell casings, one of which was found in the car and one on</b>	14:22	20	the -- of the squad car while it was still in the air,
	21	<b>the -- in the windshield wiper well. Did you test Detective</b>		21	meaning that -- that the car was fairly close.
	22	<b>Ciritella's weapon to see how it ejected shell casings?</b>		22	<b>Q. Does that suggest whether the car was driving</b>
	23	A. Yes. I fired the weapon over a flat concrete		23	<b>toward -- behind Mr. Ciritella?</b>
	24	surface so we could understand the characteristic patterns		24	A. I'm sorry. Could --
14:18	25	if there are characteristic patterns that result from firing	14:22	25	<b>Q. Was driving left to right; am I correct?</b>

		33		35
14:22	1	A. Yes.	14:25	1 THE REPORTER: Yes.
	2	<b>Q. Was it also moving in a -- towards his rear?</b>		2 (Deposition Exhibit 11 was marked
	3	A. No, it would be moving away, toward --		3 for identification.)
	4	<b>Q. Was the car moving away from Detective</b>		4 <b>Q. BY MR. PARKINS: The photograph to which I'm</b>
14:22	5	<b>Ciritella when he was shooting?</b>	14:26	5 <b>referring, Dr. Nordby, is the lower of the two photographs.</b>
	6	A. No. It would be coming right up to him.		6 A. Yes.
	7	<b>Q. Right.</b>		7 <b>Q. What does that depict?</b>
	8	A. So --		8 A. It shows that the white Jeep had a antitheft
	9	<b>Q. I'm sorry.</b>		9 device in place, called the Club, and that had locked the
14:23	10	A. I'm not sure I understood.	14:26	10 steering wheel in -- in position, and it also appears to
	11	<b>Q. No.</b>		11 have had a -- another standard safety lock mechanism, which
	12	<b>You -- you also made reference to glass.</b>		12 kept the wheels from turning.
	13	A. Yes.		13 Also, one can see the damage to the -- to the
	14	<b>Q. I'm going to show you a photograph which you</b>		14 white Jeep as well as the tire tracks left by Patrol Car
14:23	15	<b>reproduced in part of your report at Page -- supplemental</b>	14:27	15 1180.
	16	<b>report at Page 4.</b>		16 <b>Q. Detective Ciritella will testify that as the</b>
	17	<b>Would we have the court reporter mark that as</b>		17 <b>car turned the corner he could hear tires screaming and</b>
	18	<b>I believe Exhibit 9.</b>		18 <b>smell rubber burning. Based upon the evidence that you have</b>
	19	THE REPORTER: 10, Counsel. 10.		19 <b>seen, do you believe that to be accurate?</b>
14:23	20	MR. PARKINS: 10. Sorry.	14:27	20 A. Yes.
	21	(Deposition Exhibit 10 was marked		21 <b>Q. There has been some suggestion that this was</b>
	22	for identification.)		22 <b>a low-speed crash because the air bags on the properly car</b>
	23	MR. PARKINS: Anne, for purposes of the		23 <b>did not deploy. Where are -- what causes an airbag to</b>
	24	record, the only portion of Exhibit 10 is the photograph and		24 <b>deploy on a car?</b>
14:23	25	not the accompanying text, and not the report.	14:27	25 A. Well, in the design of this police
		34		36
14:23	1	<b>Q. What does this photograph depict, Dr. Nordby?</b>	14:27	1 interceptor the frame rails have the sensors which trigger
	2	A. It shows a police officer pointing to glass		2 the airbag, and most modern cars are designed to protect the
	3	from a tempered glass side window on the corner of 5th and		3 passengers and occupants, drivers, as well, from injury
	4	Harrison.		4 during any impact. This particular impact damaged the right
14:24	5	<b>Q. BY MR. PARKINS: Is this the glass to which</b>	14:28	5 front fender of Patrol Car 1180 and that damage did not
	6	<b>you earlier referred when you were telling us about the</b>		6 directly strike the front bumper with sufficient force to
	7	<b>proximity of the motor vehicle?</b>		7 deploy the air bags. The failure of the bags to deploy is
	8	A. Yes.		8 actually a design feature because the vehicle crumpled on
	9	<b>Q. Okay. Thank you.</b>		9 the right side the way it was designed to do.
14:24	10	<b>Dr. Nordby, I'd like to now focus on what</b>	14:28	10 <b>Q. I'm going to show you a photograph, which</b>
	11	<b>happened as the properly car turned the corner. I believe</b>		11 <b>I'll ask the reporter to mark as Exhibit 12.</b>
	12	<b>it's conceded that it struck a -- a Jeep Cherokee.</b>		12 <b>(Deposition Exhibit 12 was marked</b>
	13	A. Yes.		13 <b>for identification.)</b>
	14	<b>Q. Can you tell us anything about whether the</b>		14 <b>Q. BY MR. PARKINS: It's the upper photograph to</b>
14:24	15	<b>car was -- the stolen car was accelerating or decelerating?</b>	14:29	15 <b>which I would like you to refer. Does this photograph</b>
	16	A. Yes. The evidence at the scene indicates		16 <b>depict the damage to the properly car?</b>
	17	that the car was accelerating. The -- the vehicle left		17 A. Yes. This shows the crumple zone on the
	18	rubber trail tread impressions from this acceleration. The		18 right front.
	19	2002 Ford vehicle is designed to grip one side if the other		19 <b>Q. Were the airbag sensors on this 2002 Crown</b>
14:25	20	side slips, in a type of traction control, and that left	14:29	20 <b>Victoria police interceptor impacted?</b>
	21	side wheel, the driver's side wheel, was -- was probably		21 A. No.
	22	spinning and producing a lot of smoke and the other wheel		22 <b>Q. Does the absence of airbag deployment in this</b>
	23	was maintaining traction.		23 <b>particular incident tell us anything at all about the speed</b>
	24	<b>Q. I'm going to show you a photograph on Page 7</b>		24 <b>at which the -- the properly car was going when it hit the</b>
14:25	25	<b>of your supplemental report. And this will be Exhibit 11?</b>	14:29	25 <b>Jeep?</b>

		37			39
14:29	1	A. No.	14:33	1	made a number of observations. The -- one pallet had
	2	<b>Q. Were you able to make any determination as to</b>		2	instruct headrest and the other bullet had to go through
	3	<b>what likely happened to Mr. Smith as the properly car hit</b>		3	Plexiglas in order to reach that area of the -- of the car
	4	<b>the Jeep Cherokee?</b>		4	occupied by the decedent.
14:30	5	A. Yes, my examination of the windshield showed	14:33	5	<b>Q. The flex glass meaning the barrier between</b>
	6	in the upper left-hand corner of that windshield that there		6	<b>the front and back seats?</b>
	7	was an impression typical of a blow from a forehead to		7	A. Yes, that's correct.
	8	the -- to the glass, and that -- that was documented		8	<b>Q. Did the car which -- the bullet which struck</b>
	9	photographically and examined. So in -- in my opinion when		9	<b>the headrest also have to hit the Plexiglas first?</b>
14:30	10	the vehicle struck the Jeep Mr. Smith bumped his head on the	14:33	10	A. Yes.
	11	front of the windshield.		11	<b>Q. What happens when bullets hit Plexiglas?</b>
	12	MS. SULTON: I'm going to object and ask that		12	A. There is a -- in this particular case the --
	13	that testimony be stricken because Dr. Nordby is not a		13	the jacketed ball owe point ammunition will expand, and it's
	14	biomechanical expert.		14	designed to expand in -- in size. Also, Plexiglas in the
14:30	15	MR. PARKINS: Okay.	14:34	15	experiments that I've done in the pass by shooting
	16	<b>Q. Dr. Nordby, did you find any residual</b>		16	ammunition through Flex I glass indicate that there's a
	17	<b>material on the inside of the windshield at the point where</b>		17	slight downward deflection when a projectile strikes that,
	18	<b>that impact took place?</b>		18	because obviously when that projectile is going at a certain
	19	A. Yes, as I recall, there was some grease and a		19	rate and it slows markedly when it strikes the object such
14:31	20	pattern impression and I -- I can't recall what else we	14:34	20	as Flex glass.
	21	found.		21	<b>Q. Do you have an opinion as to whether</b>
	22	<b>Q. Do you recall whether the autopsy report made</b>		22	<b>Mr. Smith was sitting upright or slumped forward over the</b>
	23	<b>any in -- suggestion as to whether there had been --</b>		23	<b>steering wheel when he was struck by these two bullets?</b>
	24	A. Yes.		24	MS. SULTON: I want to again reiterate my
14:31	25	<b>Q. -- some impact involving Mr. Smith's</b>	14:34	25	standing objection to any testimony being offered by this
		38			40
14:31	1	<b>forehead?</b>	14:35	1	particular witness because he is not qualified to render
	2	A. Yes, the pathologist reported a contusion in		2	testimony about the cause or manner of death. Thank you,
	3	the area that I believe hit the windshield.		3	Counsel.
	4	<b>Q. Thank you.</b>		4	THE WITNESS: Repeat.
14:31	5	<b>Let's move on. The medical examiner's report</b>	14:35	5	MR. PARKINS: Would you read it back, please,
	6	<b>indicates that two shots struck Mr. Smith from the rear.</b>		6	Ron.
	7	<b>Did you make any determination as to whether any of these</b>		7	(Record read.)
	8	<b>bullets struck anything before hitting Mr. Smith?</b>		8	THE WITNESS: The evidence shows that he was
	9	A. Yes.		9	upright given the trajectories and the wound path described
14:32	10	MS. SULTON: I'm going to object to this	14:35	10	by the pathologist.
	11	entire line of questioning about any injuries, the cause		11	<b>Q. BY MR. PARKINS: And what do you mean by the</b>
	12	and/or manner of death of Mr. Smith, because Dr. Nordby is		12	<b>trajectories?</b>
	13	not qualified to render an opinion about physical injuries.		13	A. The trajectories meaning the incoming rounds
	14	He is not a medical doctor, has no education in the field of		14	through the vehicle, the angles at which all of those
14:32	15	medicine, and is not board certified as a pathologist. So I		15	potential bullets had to take in order to reach the occupied
	16	will leave that as a continuing objection.		16	space.
	17	MR. PARKINS: That's fine.		17	<b>Q. Thank you.</b>
	18	MS. SULTON: Thank you, Counsel.		18	<b>Let's focus, if we could, on the shot that</b>
	19	MR. PARKINS: Would you like the question		19	<b>struck Mr. Smith in the head. Do you have an opinion as to</b>
14:32	20	reread?	14:36	20	<b>what trajectory that bullet took?</b>
	21	THE WITNESS: Please.		21	A. Yes.
	22	MR. PARKINS: Ron, would you do that for me,		22	<b>Q. What trajectory did that take?</b>
	23	please.		23	A. Well, the bullet came in from the side. One
	24	(Record read.)		24	has to be cautious in -- in putting together shooting
14:33	25	THE WITNESS: Yes. We did a number of --	14:36	25	scenarios in this sense because heads obviously move, but

	41		43
14:36	1 when we put together the information we have from the squad 2 car itself and damage to the vehicle, the bloodstain pattern 3 evidence which is present inside the vehicle, the medical 4 examiner's account of the direction of the bullet impact	14:40	1 <b>officers will testify that when they arrived at the stopped</b> 2 <b>car he was slumped to the right. What does the physical</b> 3 <b>evidence tell you about what happened?</b>
14:37	5 through the decedent's head, we can come up with a 6 trajectory, as you put it, that the bullet came from the 7 right side or the passenger side of the car, and that the 8 decedent was upright in the -- in the vehicle when this 9 bullet struck his head.	14:40	4 A. The physical evidence indicates that when the 5 bullet struck the decedent's head his head was upright, and 6 we can determine that by looking at the bloodstain patterns 7 on the clipboard that are between the passenger and driver's 8 seat in the front seat of the squad car, that allows us to 9 form a point of origin for those -- for those blood -- blood
14:37	10 Q. The plaintiffs have alleged in this case that 11 Mr. -- that the defendant officers shot Mr. Smith after the 12 police car had come to a stop. Do you have any opinion as 13 to whether the car was still moving when the shot which hit 14 him in the head was fired?	14:41	10 stains. And the second feature is that there's projected 11 blood, which can only come from a compromised artery, for 12 example, and that blood is projected behind and to the right 13 side of the driver's backrest, and that would place the 14 decedent slumped to the right at the time those projected 15 stains struck the partition.
14:38	15 A. The movement of the vehicle is not something 16 that is captured by an analysis of an impact of an injury or 17 damage to the -- to the vehicle itself. It occurs to me 18 that we have to consider the -- the scene, as well, the 19 glass, the fractures of different types of glass, the	14:41	16 Q. The plaintiffs in this case allege that 17 Mr. Smith on 5th Street was trying to drive away from 18 Detective Ciritella and that Detective Ciritella was never 19 in danger. The plaintiffs further allege, as I've
14:38	20 striking the Jeep and the movement of the Jeep, as well, and 21 the fact that for that bullet to have struck the decedent in 22 the head, that there had to be a relationship between -- 23 between him and the vehicle. And that's what we can look at 24 the bloodstain patterns to tell us.	14:42	20 mentioned, that the detectives -- the defendants, excuse me, 21 shot and wounded Mr. Smith after the car had stopped. The 22 plaintiffs -- excuse me. The defendants claim that 23 Mr. Smith narrowly missed Detective Ciritella as he drove in 24 his direction. He accelerated around the corner, and that 25 the defendants never fired at the car -- at the car after
14:39	25 Q. Is it your understanding that when the car		
	42		44
14:39	1 <b>was on Harrison Street it was moving northbound?</b> 2 A. My understanding is that it was moving 3 northbound.	14:42	1 <b>the car was stopped. Which version does the physical</b> 2 <b>evidence support?</b>
14:39	4 Q. Where were detective Ciritella's shell 5 casings found vis-a-vis the end point of the -- of the trip, 6 the car?	3	3 A. The physical evidence clearly supports the 4 latter version.
14:39	7 A. They were found toward the back end of the 8 car, if I'm understanding your question correctly.	14:42	5 Q. You have expressed a number of opinions today 6 about the most likely event based on the physical evidence. 7 Have those opinions been expressed to a reasonable degree of 8 scientific probability?
14:39	9 Q. Were they found south of the front of the 10 car? 11 A. South of the front of the car, that's 12 correct.	9	9 A. Yes.
14:39	13 Q. If the car had been stopped and Detective 14 Ciritella had fired his weapon, where would you have 15 expected to find them?	14:43	10 MR. PARKINS: Thank you. I have nothing 11 further.
14:39	16 A. I would have expected to find them either in 17 the same area as the car or north of the car.	12	12 Do you want to take a short break?
14:40	18 Q. What does the fact that they were found south 19 of that area tell you?	13	13 MS. SULTON: If the doctor would like to.
14:40	20 A. Tells me that the car was moving and 21 continued to move after those shots were fired.	14	14 THE WITNESS: Yeah, short. I'm not feeling
14:40	22 Q. Okay.	14:43	15 very good.
14:40	23 The plaintiffs in this case allege that 24 Mr. Smith was slumped over the driving -- over the steering	16	16 MS. SULTON: Off the record.
14:40	25 wheel. The defendants will testify -- or the police	17	17 THE VIDEOGRAPHER: We're going off the
		18	18 record. The time is 2:43 p.m. Please stand by.
		19	19 (Short recess.)
		14:49	20 THE VIDEOGRAPHER: We're back on the record.
		21	21 The time is 2:49 p.m.
		22	22 Q. BY MS. SULTON: Good morning, Dr. Nord -- or
		23	23 good afternoon, I should say.
		24	24 A. Mm-hmm.
		14:49	25 Q. I am reserving all of the objections I've

	45		47
14:49	<p>1 <b>made prior to the point at which we began your deposition.</b></p> <p>2 <b>Wanted to go through just a couple of issues with you, if I</b></p> <p>3 <b>may.</b></p> <p>4 <b>Do you know whether or not Mr. Ciritella is</b></p>	14:52	<p>1 <b>summer of 2006 did you see any of the photographs that the</b></p> <p>2 <b>police officers or someone working on behalf of the police</b></p> <p>3 <b>officers had taken of the car showing the trajectory stakes</b></p> <p>4 <b>that some refer to as dowel sticks that had been put through</b></p>
14:49	<p>5 <b>right- or left-handed?</b></p> <p>6 A. No. Not off the top of my head.</p> <p>7 Q. <b>When did you look at Patrol Car 1180?</b></p> <p>8 A. It was in I believe June of 2006.</p> <p>9 Q. <b>And this incident occurred September 13th of</b></p>	14:53	<p>5 <b>the car and so forth?</b></p> <p>6 A. Yes, I did see some of those photographs.</p> <p>7 Q. <b>And -- and did you see the photographs where</b></p>
14:50	<p>10 <b>2003?</b></p> <p>11 A. That's correct.</p> <p>12 Q. <b>Do you have any idea of how many people were</b></p> <p>13 <b>inside that car before you saw it in the summer of 2006?</b></p> <p>14 A. Just from the photographs that were supplied</p>	14:53	<p>8 <b>top of the headliner and wrote on the word headliner?</b></p> <p>9 A. It's not ringing any bells for me, but I</p>
14:50	<p>15 to me showing the work that had been done, but -- but the</p> <p>16 exact number I'm not sure, but I would -- I would venture to</p> <p>17 say that several people had been in there.</p> <p>18 Q. <b>When you looked at the car did you see the</b></p> <p>19 <b>car as it was -- the state of the -- the physical state of</b></p>	14:53	<p>10 might have. I don't recall.</p> <p>11 Q. <b>You don't deny that there might be some</b></p> <p>12 <b>photographs in existence that show someone placing what</b></p> <p>13 <b>appears to be kind of a clear tape kind of like a masking --</b></p>
14:51	<p>20 <b>the car as it was on September 13th, 2003, within hours of</b></p> <p>21 <b>the shooting?</b></p> <p>22 A. No one would be in that position unless they</p> <p>23 were at the scene of the shooting and able to look at the</p> <p>24 vehicle at that time.</p> <p>25 Q. <b>I'm sorry, Doctor. Let me try to sharpen my</b></p>	14:53	<p>14 <b>kind of like a mailing tape and using that against the</b></p> <p>15 <b>headliner and kind of sticking pieces of paper up there to</b></p> <p>16 <b>mark certain parts of the headliner?</b></p> <p>17 A. I -- I don't recall that, but it's certainly</p>
14:51		14:53	<p>18 possible.</p> <p>19 Q. <b>Now, is it fair to say that when someone</b></p> <p>20 <b>takes a wood dowel to try to visually show the trajectory of</b></p> <p>21 <b>a bullet that they are going to -- although minutely,</b></p> <p>22 <b>they're going to change the configuration of the holes</b></p> <p>23 <b>through which they stick those wooden dowels?</b></p>
14:51		14:54	<p>24 A. The answer is it depends on the material, and</p>
	46		48
14:51	<p>1 <b>question a bit, if I could.</b></p> <p>2 A. Sure.</p> <p>3 Q. <b>When you looked at the car it had already</b></p> <p>4 <b>been cut up by other -- I assume police investigators.</b></p>	14:54	<p>1 to the extent that one was doing a microanalysis, for</p> <p>2 example, of changes or effects on the margin of an entrance</p> <p>3 wound, for example, or an entrance to a vehicle, it might</p> <p>4 affect the -- the deposit of trace materials that were</p>
14:51	<p>5 A. I saw evidence that prior processing had</p> <p>6 occurred, yes.</p> <p>7 Q. <b>And it was extensive, correct?</b></p> <p>8 A. Yes.</p> <p>9 Q. <b>And some of that processing included using</b></p>	14:54	<p>5 available only to the aided eye microscopically, but the</p> <p>6 presence of trajectory rods through metal bullet holes in</p> <p>7 cars through glass, Plexiglas and so forth doesn't alter the</p> <p>8 hole in any significant way.</p>
14:51	<p>10 <b>some kind of device to actually cut the metal off one of the</b></p> <p>11 <b>fenders, correct?</b></p> <p>12 A. Yes, I believe the fender was cut in an</p> <p>13 effort to find one of the projectiles, the bullets.</p> <p>14 Q. <b>And the same thing had happened to at least</b></p>	14:55	<p>9 Q. <b>Is it true, Doctor, that you can't tell when</b></p> <p>10 <b>each of the 31 shots were fired at the intersection of 5th</b></p> <p>11 <b>and Harrison Street?</b></p>
14:52	<p>15 <b>one of the doors on the car, as well, where they had taken</b></p> <p>16 <b>the -- taken the -- part of the -- well, had taken the door</b></p> <p>17 <b>apart to look at the inside of the door of the car between</b></p> <p>18 <b>where you have the -- what I call the creature comfort part</b></p> <p>19 <b>of the door and the mechanical inner workers of the door for</b></p> <p>20 <b>the window and so forth?</b></p> <p>21 A. Yes, I think the -- there was at least one of</p>	14:55	<p>11 A. Yes, that's correct.</p> <p>12 Q. <b>So you don't know when the shot was fired</b></p> <p>13 <b>that actually left a bullet lodged in Mr. Smith's brain?</b></p>
14:52	<p>22 the rear doors, maybe both rear doors, where the -- the</p> <p>23 panel -- interior panel was -- was removed and was loose in</p> <p>24 the back see the area.</p> <p>25 Q. <b>And prior to you looking at the car in the</b></p>	14:55	<p>14 A. I'm not sure I understand your question.</p> <p>15 Q. <b>There were -- you know there were 31 shots</b></p> <p>16 <b>that were fired at the intersection of 5th and Harrison</b></p> <p>17 <b>Street.</b></p>
14:52		14:55	<p>18 A. Yes.</p> <p>19 Q. <b>You can't tell which of those 31 shots were</b></p> <p>20 <b>fired at any particular point in time or the sequence of</b></p> <p>21 <b>those shots, correct?</b></p>
14:52		14:56	<p>22 A. Only -- only in general terms. We can't --</p> <p>23 and the reason I -- I want to be -- be clear here is that</p> <p>24 the -- the factors that involve moving the vehicle's</p>

<p>14:56 1 movement, the fact of the bloodstain pattern, the impact 2 staining and the arterial spurt deposition, would indicate 3 that at the time after that shot was fired the decedent 4 went -- fell over to his right, but I couldn't be -- you 14:56 5 couldn't tell whether the 14A or 11A through the Plexiglas, 6 for example, came first.</p> <p>7 Q. You don't know when out of 31 shots, which 8 one of those 31 shots in terms of the timing sequence -- 9 which one of those 31 shots is the one that was shot into</p> <p>14:56 10 Mr. Smith's head?</p> <p>11 A. Well, again, forgive me if I'm not being 12 responsive, but there is a certain inference, and again, 13 it's an inference based on the total -- total evidence here, 14 that if that shot to his head was the first one that struck,</p> <p>14:57 15 then you would expect to see the scene appear quite 16 differently than it does.</p> <p>17 Q. How?</p> <p>18 A. I guess that's -- that's what I'm --</p> <p>19 Q. How?</p> <p>14:57 20 A. Well, for example, if the shot incapacitated 21 him immediately, then one would expect the car to be in a 22 different position. There wouldn't be the trail of broken 23 glass here and the position of the car further north. So 24 the -- the vehicle kept moving.</p> <p>14:57 25 Q. Let me ask you briefly if I could about the</p>	<p>49</p> <p>14:59 1 where it came from, when it got there? How do you know 2 that?</p> <p>3 A. The volume of the glass -- again, the answer 4 is it's an inference. The volume and the shape of the glass 14:59 5 shows that it's tempered glass. Tempered glass breaks into 6 little squares.</p> <p>7 Q. What do you -- what evidence do you have 8 other than that Photograph No. 10 that shows that is 9 the Plexiglas -- I'm sorry -- the tempered glass to which</p> <p>14:59 10 you refer?</p> <p>11 A. Nothing other than visual identification.</p> <p>12 Q. Visual through photographs?</p> <p>13 A. Correct.</p> <p>14 Q. You are assuming, and correct me if I'm</p> <p>14:59 15 wrong, that that is the tempered glass that came from the 16 window on the passenger side of the vehicle?</p> <p>17 A. I think the answer is yes, because the -- of 18 the orientation of the vehicle to the -- to the glass at the 19 side.</p> <p>15:00 20 Q. Given the volume of glass that you're looking 21 at at Exhibit No. 10, do you know how much glass was left in 22 the window of the car?</p> <p>23 A. I looked at the -- each of the windows of the 24 vehicle as part of my examination, and there -- there was 15:00 25 very little if any glass left in that passenger side window.</p>
<p>50</p> <p>14:57 1 broken glass. You were asked to refer to an exhibit that 2 shows a police officer pointing at what appears to be some 3 broken glass on the street.</p> <p>4 A. Yes.</p> <p>14:57 5 Q. Can you pull that out and tell us what 6 exhibit number that is, sir.</p> <p>7 A. It's Exhibit 10.</p> <p>8 Q. Thank you.</p> <p>9 So when looking at Exhibit 10, did you talk</p> <p>14:58 10 to that police officer during your work on this case?</p> <p>11 A. I spoke with -- I'm trying to remember. Was 12 it --</p> <p>13 MR. PARKINS: Should I help the witness or 14 not?</p> <p>14:58 15 MS. SULTON: No.</p> <p>16 THE WITNESS: Ciritella and Brown and I 17 believe -- can't recall, but there are some other 18 photographs that were part of this set that showed the -- 19 the glass more -- in a close-up.</p> <p>14:58 20 Q. BY MS. SULTON: Let me repeat the question. 21 Did you speak with the officer who is pictured in 22 Exhibit 10?</p> <p>23 A. I -- I don't recognize him from the 24 photograph.</p> <p>14:58 25 Q. How do you know what kind of glass that is,</p>	<p>52</p> <p>15:00 1 Q. How could you know the angles of bullets 2 going through the passenger side window if there is no glass 3 left in that window?</p> <p>4 A. I never said anything about angles with 5 passenger side windows, and the answer is you can't. When 6 tempered glass is struck, sometimes the first shot will 7 remain and the window will shatter, but traditionally radial 8 and concentric circles -- radial fractures and concentric 9 circles are used to establish the order of shots. Well, 15:01 10 that doesn't work with tempered glass and it doesn't work 11 with safety glass. So you can't tell.</p> <p>12 Q. Can you tell whether or not the projected 13 blood about which you testified came from Mr. Smith's head, 14 his arm, his wrist, or any other place where she was shot?</p> <p>15:01 15 A. Yes.</p> <p>16 Q. How can you do that?</p> <p>17 A. Under the microscope I observed brain tissue 18 and soft tissues associated with brain material.</p> <p>19 Q. In the projected blood?</p> <p>15:02 20 A. Yes.</p> <p>21 Q. Let me ask you about the bullet casing that 22 was found inside the car. You testified that 23 Mr. Ciritella's gun would discharge a shell back and toward 24 the right, correct?</p> <p>25 A. Correct.</p>

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15:02	1 <b>Q. Do you know whether or not Mr. Ciritella</b> 2 <b>shoots with one hand or two hands?</b> 3       A. I don't know how any of these shots were 4       accomplished. I mean, I don't.		15:07	1       and apply physical laws. So -- 2 <b>Q. That science as a method can help us prove</b> 3 <b>something false, correct?</b> 4       A. It -- it's certainly easier to prove
15:03	5 <b>Q. Assuming that the car was close enough to</b> 6 <b>Mr. Ciritella at the point at which his shell casing ended</b> 7 <b>up in the middle of the car, would the window have been down</b> 8 <b>or up at that point?</b> 9       A. From -- from looking at the glass in the		15:07	5       something is not true than it is to prove that something is 6       true. However, if you prove something is not true, you've 7       just proved that something is true. There's the paradox.
15:03	10      window channel when I examined the vehicle, the glass would 11      have to be gone.		15:08	8 <b>Q. You would agree with me that no</b> 9 <b>reconstruction can explain every element of an event,</b> 10 <b>correct?</b> 11      A. That is correct, yes.
15:03	12 <b>Q. So is it fair to say, then, Dr. Nordby, that</b> 13 <b>the first bullet shot by Mr. Ciritella shattered the glass?</b> 14      A. I couldn't speculate on which bullet		15:08	12 <b>Q. And you would agree with me that when using</b> 13 <b>the scientific method the facts and data considered as you</b> 14 <b>reach your conclusion -- in other words, in reaching your</b> 15 <b>conclusion when using a scientific method, your conclusion</b> 16 <b>is only as good as the facts and data you have considered?</b>
15:03	15      shattered the glass.		15:08	17      A. That's correct.
15:04	16 <b>Q. But it's fair to say that the first bullet,</b> 17 <b>since the window was up, would not have resulted in that</b> 18 <b>shell casing being inside the car, correct?</b> 19      A. That's correct.		15:08	18 <b>Q. So if the information you considered is</b> 19 <b>incorrect, then your conclusion is incorrect?</b>
15:04	20 <b>Q. Can you tell whether or not Mr. Ciritella was</b> 21 <b>walking or running when he was firing his gun?</b> 22      A. No.		15:08	20      A. Well, that doesn't follow.
15:04	23 <b>Q. Does it make a difference as to the shell</b> 24 <b>pattern or the -- or the placement of the shell casings on</b> 25 <b>the pavement?</b>		21 <b>Q. Why is that?</b> 22      A. Because we could get the correct answer for 23      completely accidental reasons. We can -- we can use faulty 24      method and incredible errors and still come up coincidentally	
			15:08	25      with a true conclusion. So what's interesting in science is
		54		56
15:04	1       A. Only a theoretical difference. If -- if 2       someone is running, let's say, in a specific direction, and 3       one is running in the same direction that one is firing, 4       then regardless of where the cartridge case, let's say, is		15:08	1       the reliability of an inference, not whether or not the 2       conclusion is true all the time.
15:05	5       ejected, the motion of the gun and -- through space relative 6       to the ground will carry over to that shell casing. But our 7       ability to measure that is negligible in this case.		15:09	3 <b>Q. Well, at Page 7 of your report, Doctor, you</b> 4 <b>assume as true that Mr. Ciritella was about two feet away as</b> 5 <b>Mr. Smith drove by him. Assuming that that fact is not</b> 6 <b>true, does that change the conclusion that you have reached?</b>
15:05	8 <b>Q. Do you know how many times Patrol Car 1180</b> 9 <b>was moved prior to the point at which you examined the car?</b>		15:09	7       A. Could you show me where that is again so I 8       can respond properly?
15:05	10      A. No, I don't.		15:09	9 <b>Q. Yes, sir. It is at Page 7 in the first full</b> 10 <b>paragraph.</b>
15:05	11 <b>Q. Is it correct, Doctor, that in -- as a matter</b> 12 <b>of principle, that in science you cannot prove a thing true?</b>		15:09	11      A. Which report, the supplemental or the --
15:06	13      A. I -- I don't understand your question.		12 <b>Q. The original report, sir.</b>	
15:06	14 <b>Q. Can science prove a fact true?</b>		13      A. Okay. Thank you.	
15:06	15      A. If -- if something is a fact, then it is		14 <b>Q. You're welcome.</b>	
15:06	16      true.		15:09	15 <b>So if you go to -- in your original report --</b>
15:06	17 <b>Q. Can the scientific method prove something</b> 18 <b>true?</b>		16      A. Yes.	
15:06	19      A. I must say I don't understand your question.		17 <b>Q. The top of Page 7, the second line from the</b> 18 <b>bottom of the first full paragraph. You'll see it's -- it</b> 19 <b>says, "about two feet away as Smith drove by him."</b>	
15:06	20      I mean --		15:09	20      A. You're -- you're above the summary opinions
15:06	21 <b>Q. Science is a -- science is a method of</b> 22 <b>inquiry, correct?</b>		21      and conclusions?	
15:06	23      A. I think it's a little more complicated. The		22 <b>Q. Yes, sir.</b>	
15:07	24      scientific method is a way of disciplining our inferences so		23      A. Okay.	
15:07	25      that they obey established logical laws and help us discover		24 <b>Q. Yeah, that if you come up to that first</b> 25 <b>paragraph there.</b>	

		57		59
15:10	1	A. Okay.	15:12	1
	2	<b>Q. And then come down to the second line?</b>		2
	3	A. I'm sorry, I -- what am I looking for, again?		3
	4	I'm having trouble finding it. Show me in there.		<b>Q. Do you know whether the photograph was taken at the scene, before the car was moved, or whether it was taken at a garage somewhere?</b>
15:10	5	<b>Q. I put just a little black mark in the margin.</b>	15:13	4
	6	A. Great. Thank you.		A. I believe that it's part of a set of
	7	<b>Q. You're welcome. Thank you.</b>		5 photographs that was taken at the scene, then my belief
	8	A. Oh, right.		6 is -- is based on the fact that other photographs in that
	9	<b>Q. Okay.</b>		7 sequence of photographs show images of things at the scene.
15:10	10	A. Okay.	15:13	8 So it's an inference again. I mean, I wasn't there and I
	11	<b>Q. So is it fair to say, Doctor, that I read that correctly, that you -- you're assuming that</b>		9 don't know, but the only reasonable way that I could try to
	12	<b>Mr. Ciritella was about two feet away as Mr. Smith drove by him?</b>		10 tell would be to look at the images that came before and
15:10	15	A. No, because the section of the report that		11 came after. So I -- I don't know.
	16	you refer to is a -- is entitled a brief summary of reported		<b>Q. If I could ask you to stay on Page 7 of your report for a moment, Dr. Nordby.</b>
	17	events, and that's what I was told.		14 A. Sure.
	18	<b>Q. Okay. So I'm saying --</b>		<b>Q. Look right above where you have in bold type "Summary: Opinions and Conclusions" and the lines right in -- right ahead of that. I see the word "handcuffed" and "began CPR."</b>
	19	A. So --		19 A. Correct.
15:11	20	<b>Q. So my question is that if that fact is not correct, does that change your opinion? In other words, if Mr. Ciritella is further away or closer to the car, does it change your opinion in any way?</b>	15:14	20 <b>Q. Is it possible to do CPR if someone is handcuffed with their hands behind them?</b>
	21			21 A. Sure.
	22			<b>Q. And how would one do that?</b>
	23			24 A. Well, I -- I mean, it depends on the
15:11	24	A. Well, I guess the answer is that the my		25 technique, but mouth to mouth is certainly possible, chest
	25	opinion has to correspond with what the physical evidence		
		58		60
15:11	1	shows, and regardless of who's telling the story or giving	15:14	1 compressions are possible. I'm not sure I'm following your
	2	me the scenario of what happened, what I can testify to is		2 question.
	3	that the presence, for example, of the cartridge case in the		<b>Q. Do you know of any cases where someone has</b>
	4	vehicle has certain implications, meaning that there had to		<b>been able to do effective CPR when the person is handcuffed</b>
15:11	5	be some proximity of the weapon discharging the cartridge	15:14	<b>with their hands behind their back?</b>
	6	case and the -- the vehicle. But I don't assume that he was		6 A. I don't know of any cases either way, I
	7	two feet, 10 feet or 20 feet away. I'm trying to interpret		7 guess. By the time I arrive they're -- they're usually
	8	the behavior of the pistol, how the pistol actually		8 dead, so I don't know if resuscitative efforts were -- were
	9	functions, how -- what has to be true for a cartridge case		9 accomplished unless -- or tried unless they're documented.
15:12	10	to go into the front seat of the car. I mean, there --	15:15	<b>Q. Do you know of any literature that suggests</b>
	11	there can't be glass in the way or it would bounce off. So		<b>that a proper way to do CPR when a person's hands are</b>
	12	we can start whittling down what's -- what has to be so,		<b>cuffed behind their back?</b>
	13	even though we may not know exactly what is so.		13 A. Well, I would -- I would think that that's
	14	<b>Q. Did you see the cartridge in the car when you</b>		14 not part of the course offered by the Red Cross, but I
15:12	15	<b>looked at the car or did you just see a photograph?</b>	15:15	15 don't -- I don't see anything that would -- would prevent it
	16	A. I just saw a photograph.		16 from occurring. It would certainly be more challenging.
	17	<b>Q. So you never saw the cartridge in the car?</b>		<b>Q. I want to show you what has been marked,</b>
	18	A. No.		<b>although not yet admitted, but what has been marked as</b>
	19	<b>Q. And you don't know when that photograph was</b>		<b>Plaintiff's Exhibit No. 4. And we're going to mark it for</b>
15:12	20	<b>taken?</b>	15:15	<b>the purposes of this Deposition Exhibit No. 13.</b>
	21	A. Well, I was told when it was taken. Whether		21 <b>(Deposition Exhibit 13 was marked</b>
	22	that's true or not depends on --		<b>for identification.)</b>
	23	<b>Q. When were you told it was taken?</b>		23 <b>Q. BY MS. SULTON: So Doctor, you're being</b>
	24	A. I'd have to look at my notes. I don't -- I		<b>handed Exhibit No. 13.</b>
15:12	25	don't know.	15:16	A. Yes.

		61			63	
15:16	1	<b>Q. Do you have it right side up?</b>	15:19	1	pathologist is a wound of entrance and that -- of the	
	2	A. (No audible response.)		2	photographs that I have seen of the side of Mr. Smith's head	
	3	<b>Q. Have you seen that exhibit before?</b>		3	certainly support the view that that's a wound of entrance.	
	4	A. Yes, I believe I have.		4	Up here.	
15:16	5	<b>Q. Have you used that exhibit as a basis for the</b>	15:19	5	<b>Q. Well, since you have opined about the wound</b>	
	6	<b>opinions that you have reached?</b>		6	<b>to his forehead, are you in a position to opine about the</b>	
	7	A. No.		7	<b>wound on the back of his head?</b>	
	8	<b>Q. Can you tell me about the -- the two</b>		8	A. Well, I -- I opined about the wound to the	
	9	<b>bullet -- so you see two holes in his back, correct?</b>		9	forehead based on a description by the pathologist and my	
15:16	10	A. That's correct.	15:19	10	observation of the windshield of the -- of the police car.	
	11	<b>Q. And how did you reach your opinion about the</b>		11	I don't have any -- any such basis to talk about anything on	
	12	<b>bullet wounds to Mr. Smith's back if you didn't use that</b>		12	the back without -- without referring to what the	
	13	<b>exhibit in forming your basis of your opinion?</b>		13	pathologist said.	
	14	A. Well, I used the description provided by the	14	<b>Q. Now, you don't talk in your report, unless I</b>		
15:17	15	autopsy, describing the position of the bullets as being	15:20	15	<b>missed it, about the bullets shot by Mr. Dempsey and</b>	
	16	approximately 11 inches from the top of the head,		16	<b>Mr. Kurten. Do you know whether or not Mr. Dempsey or</b>	
	17	approximately inch and a quarter, two inches from midline,		17	<b>Mr. Kurten was the one who shot Mr. Smith in the back?</b>	
	18	so on. And what that does for me is that the description of		18	A. No.	
	19	their location in space is what I'm interested in, and --	19	<b>Q. Why don't you know?</b>		
15:17	20	and my -- my particular role is to try to make correlations	15:20	20	A. I was not provided with either of their	
	21	between injuries here that are described by a pathologist		21	weapons to do any kind of comparison or any kind of testing	
	22	and the physical damage to the vehicle. If Mr. Smith is in		22	with. The issues of -- of those injuries I was not asked	
	23	the driver's seat of the vehicle, if these bullet -- these		23	to -- to address, so I -- I didn't address them.	
	24	are, in fact, bullet entries as described by the	24	<b>Q. Well, isn't it important to know who shot</b>		
15:17	25	pathologist, and if -- if they were inflicted on the -- the	15:20	25	<b>Mr. Smith in the back?</b>	
		62			64	
15:18	1	decedent when he was driving this car, then they had to	15:20	1	MR. PARKINS: Objection.	
	2	somewhat go through the windows of the car or the body of the		2	You can answer.	
	3	car or some other components of the car in order to strike		3	THE WITNESS: Given -- given the issues that	
	4	at this position. So I didn't rely on any photographs to --		4	were put to me, the answer would be not as significant as	
15:18	5	to look at the physical status of the squad car.	15:21	5	knowing or not significant in the sense that we only need to	
	6	<b>Q. So take a look at the back of his head. Do</b>		6	know they came from behind and from the rear and they were	
	7	<b>you know what that is?</b>		7	nonfatal, according to the pathologist.	
	8	A. No.	8	<b>Q. BY MS. SULTON: But that's not what the</b>		
	9	<b>Q. It appears to be some kind of injury, doesn't</b>	9	<b>pathologist said. The pathologist said that all bullets</b>		
15:18	10	<b>it?</b>	15:21	10	<b>shot contributed to his death. She aggravated them -- she</b>	
	11	A. It could be.		11	<b>ago -- aggregated them?</b>	
	12	<b>Q. Is that a bullet hole injury, can you tell?</b>		12	MR. PARKINS: Objection to the form, but you	
	13	A. I certainly can't tell from a photograph.		13	can answer.	
	14	<b>Q. So you don't know if that's an entry or exit</b>		14	THE WITNESS: Yeah. I mean, that's very	
15:18	15	<b>point for -- for the bullet, correct?</b>		15:21	15	speculative. I wouldn't have any way of responding. I
	16	A. For -- for what bullet?		16	don't know what to say about that.	
	17	<b>Q. For the bullet that went into his brain.</b>		17	<b>Q. BY MS. SULTON: Now, you testified that all</b>	
	18	A. No.		18	<b>Mr. Smith's gunshot wounds were fired from more than three</b>	
	19	<b>Q. You don't know, do you?</b>		19	<b>feet, 36 inches away. I'm now looking at Page 9 of your</b>	
15:18	20	A. It was -- it was not a perforating wound, it		20	<b>report, sir, Paragraph 16.</b>	
	21	was described as a penetrating wound with the bullet		21	<b>What evidence do you have to support that?</b>	
	22	recovered.		22	A. The characteristic of the -- of the wounds	
	23	<b>Q. So how do you know Mr. Smith wasn't shot in</b>		23	described by the pathologist, the lack of gunshot residue,	
	24	<b>the back of the head versus on the side of the head?</b>		24	the lack of powder, stippling, anything that suggests a	
15:19	25	A. Well, 1st all, the wound described by the		25	closer or -- close-range gunshot, and the -- the deformation	

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15:22	<p>1 of the rounds having struck intermediate targets before they 2 struck Mr. Smith.</p> <p>3 <b>Q. But again, that's based upon you looking at a</b> 4 <b>car two and a half years after the incident, correct?</b></p>	15:26	<p>1 <b>of Mr. Smith and discharged his weapon inside that car</b> 2 <b>before that car door closed.</b></p> <p>3 A. Then I would expect to find -- on a pair of 4 long pants I would expect to find perhaps traces of 5 antimony, barium and lead. If we looked at the sill -- the 6 door sill on the -- on the vehicle, there might be trace 7 evidence there. So -- so that would certainly -- again, 8 depending on how much blood and so forth, that can affect 9 the success or the failure to find something. But again, I 10 looked for gunshot residue on the decedent's clothing and 11 they were short pants, not long pants. And I also looked in 12 the headliner and the visor, sun visors, for gunshot 13 residue, but I did not look at the door panel down below.</p> <p>14 <b>Q. Did you look at the door panel on the</b> 15 <b>passenger side?</b></p>
15:22	<p>5 A. That's correct.</p> <p>6 <b>Q. And is it fair to say that when you talk</b> 7 <b>about all Mr. Smith's gunshot wounds were fired from more</b> 8 <b>than 30 -- from three feet, 36 inches away, you're not</b> 9 <b>talking about the gunshot wound to his leg?</b></p>	15:26	<p>10 A. No.</p> <p>11 <b>Q. And when we talk about short pants, we're</b> 12 <b>talking about short pants as young men wear them, so they</b> 13 <b>actually come below the knee, correct?</b></p>
15:23	<p>10 A. Well, in my report I also describe factors 11 that influence the deposition of those materials, and 12 without looking at -- at the particular weapon and knowing 13 that ammunition, which -- which I believe is the same 14 ammunition, it would be very difficult to -- to make an 15 opinion about it, since that, you know, different 16 environmental factors, the -- the angle at which the gun is 17 held, the proximity to the -- to the target and so forth.</p>	15:27	<p>20 A. Some even further than about.</p> <p>21 <b>Q. But I'm talking about the pants that</b> 22 <b>Mr. Smith had on at the time of the shooting --</b></p>
15:24	<p>25 But generally on the outside of a vehicle I wouldn't expect</p>	15:27	<p>23 A. Right.</p> <p>24 <b>Q. Were -- although we do call them short pants,</b> 25 <b>they're actually pants that come beyond the knee, correct?</b></p>
	66		68
15:24	<p>1 to find the primer residues on the headliner inside the 2 vehicle unless the gun itself was inside the vehicle.</p> <p>3 <b>Q. Well, what I'm saying is that -- and maybe I</b> 4 <b>didn't state the question clearly enough. There is a</b> 5 <b>videotape that we have that is going to be admitted into</b> 6 <b>evidence. That shows Harry Smith getting into the car,</b> 7 <b>Officer Whitehead shoots him, and then the car door closes.</b></p>	15:27	<p>1 A. Yes. Yeah, and I don't know what position 2 those garments were in when the shot was fired.</p> <p>3 <b>Q. I want to ask you something about -- and let</b> 4 <b>me know whenever you need to take a break, Doctor.</b></p>
15:24	<p>8 <b>So we know that there is a shot in the car. We know that.</b></p> <p>9 <b>So my question is that since we know that to be true, the</b> 10 <b>absence of finding any of this gunshot residue material that</b> 11 <b>you testified about doesn't necessarily mean, therefore,</b> 12 <b>that there was no gunshot in that car, since we know that</b> 13 <b>there was at least one shot.</b></p>	15:27	<p>5 A. Thank you.</p> <p>6 <b>Q. We will certainly work with your schedule,</b> 7 <b>sir.</b></p>
15:25	<p>14 A. I think --</p> <p>15 MR. PARKINS: Before you answer, objection to 16 the form of the question, but you can answer.</p> <p>17 THE WITNESS: The -- the difficulty I'm 18 having understanding your question is shot in the car. Does 19 that mean that the gun itself is inside the vehicle?</p>	15:28	<p>8 <b>I want to ask you something about the</b> 9 <b>behavior or conduct of bullets. You testified that when</b> 10 <b>testing Mr. Ciricella's gun, that the shell casing would</b> 11 <b>spin in the air, be in the air for a while, and then gravity</b> 12 <b>would pull it down, correct?</b></p>
15:25	<p>20 <b>Q. BY MS. SULTON: Yes, sir.</b></p> <p>21 A. Or does it mean that the shot went into the 22 vehicle and -- and what is the orientation of the slide to 23 the discharge of the weapon? In other words --</p> <p>24 <b>Q. I want you to assume, sir, that the videotape</b> 25 <b>confirms that Mr. Whitehead was within three feet for sure</b></p>	15:28	<p>13 A. Can happen that way, yes.</p> <p>14 <b>Q. That -- we know the surface on which the</b> 15 <b>bullets fell was either concrete or asphalt, correct?</b></p>
15:25		16 A. Correct.	
		17 <b>Q. Does the surface on which the shell casings</b> 18 <b>fell in this case make a difference as to the behavior of</b> 19 <b>that shell casing upon impact with the ground?</b>	
		20 A. The -- the answer is yes, different surfaces 21 can behave differently when brass cartridge cases hit those 22 surfaces, and -- and to really appreciate those -- those 23 differences one would have to shoot a whole lot of 24 ammunition and compare, let's say, concrete with asphalt, 25 with different surfaces, and at different angles, as well.	

<p style="text-align: right;">69</p> <p>15:29 1 <b>Q. Is it fair to say that a brass shell</b> 2 <b>casing -- and I'm now talking about this case -- hitting the</b> 3 <b>kind of surfaces that we know are present in this case,</b> 4 <b>there's cement, there may be asphalt, as well, but we know</b> 5 <b>there's cement. Is it fair to say that the shell casing</b> 6 <b>upon impact with the ground would bounce and perhaps roll?</b></p> <p>7 A. Could -- it could do, yes.</p> <p>8 <b>Q. Could do both, correct?</b></p> <p>9 A. Yes, could.</p> <p>15:29 10 <b>Q. Now, is it fair, then, to assume that the</b> 11 <b>point at which we find a shell casing on the ground might</b> 12 <b>not necessarily have a whole lot to do with where that --</b> 13 <b>where the shooter was standing when he or she fired a shot,</b> 14 <b>correct?</b></p> <p>15:29 15 A. If you look at the -- the testing that I did, 16 and I made a chart, you know, to show the distances and so 17 forth, there's a wide variety of different distances, both 18 measured away from the side of the test pistol, and away 19 from the muzzle. So it can happen that -- and did, in fact, 15:30 20 in my experiments, that the ejected shell casing hit my 21 shoulder and that affected where it -- it went. So there is 22 a wide variety, and one also has to be cautious about 23 reaching too specific a conclusion other than talking about 24 general areas, where there's a location of these things.</p> <p>15:30 25 But I think forensic science goes wrong if we try to be too</p>	<p style="text-align: right;">71</p> <p>15:32 1 We're going off the record. The time is 3:32 p.m. Please 2 stand by.</p> <p>3 (Short recess.)</p> <p>4 THE VIDEOGRAPHER: This marks the beginning</p> <p>15:38 5 of Tape No. 2, Volume I, in the deposition of Jon J. Norby, 6 B pH. Did he are back on the record. The time is 3:38 p.m.</p> <p>7 MS. SULTON: Thank you, sir.</p> <p>8 <b>Q. So Mr. -- I'm sorry, Dr. Nordby, we're at</b></p> <p>9 <b>Page 14. I believe you were pointing me to your Test 1</b> <b>Line 3.</b></p> <p>15:38 10 A. Yes.</p> <p>12 <b>Q. It says "Lateral Distance from Slide,</b> 13 <b>114 inches," then "Distance to Back or Front of Slide,</b> 14 <b>0 inches." Tell me what that means.</b></p> <p>15:39 15 A. Well, that means that when we measured the -- 16 I established a fixed location, if you look at the appendix 17 you can see the setup documented, but it would be 114 inches 18 lateral distance. That is, going from the side of the 19 pistol. It -- it's 114 inches that way. And then zero 15:39 20 degrees either to the back, to the front, or zero means it 21 just went straight out. And what influenced the travel of 22 the -- of the cartridge case could be that it -- it struck 23 the shooter's arm, it struck me, it struck my shoulder, came 24 back, ricocheted, and then ended up, and in this case I 15:39 25 recall the shot, the cartridge case came backward and hit my</p>
<p style="text-align: right;">70</p> <p>15:30 1 precise, because the -- the random nature of these events 2 has to be taken into consideration.</p> <p>3 <b>Q. Before we switch tape in about two minutes,</b> 4 <b>Dr. Nordby, you reference your report. Am I correct to look</b> 5 <b>at Pages 14 and 15, when you talk about the wide variety of</b> 6 <b>distances, or is there another place in your report to which</b> 7 <b>you can direct me?</b></p> <p>8 A. Yeah, I believe it's 14 and 15.</p> <p>9 <b>Q. So to make certain that I am correctly</b> 10 <b>reading the data that you have here, sir --</b></p> <p>11 A. Mm-hmm.</p> <p>12 <b>Q. Can you tell us what this wide difference of</b> 13 <b>distance is?</b></p> <p>14 A. Well, in -- in each case I moved six inches 15 after each shot. Okay? Just to -- to give us a -- an 16 increasing measurement. So in some cases the lateral 17 distance from the slide, for example, No. 3, is 114 inches, 18 and it went backward zero inches.</p> <p>19 <b>Q. Okay, so let me stop you for a second. How</b> 20 <b>much time do we have on the tape?</b></p> <p>21 <b>Let us take a break so we can switch tapes.</b></p> <p>22 A. Okay.</p> <p>23 MS. SULTON: Thank you.</p> <p>24 THE VIDEOGRAPHER: This marks the end of Tape</p> <p>15:32 25 No. 1, Volume 1, in the deposition of Jon J. Norby, Ph.D.</p>	<p style="text-align: right;">72</p> <p>15:39 1 shoulder and then continued its path that way, so it ended 2 up 114 inches away right straight, even though it didn't 3 actually go straight.</p> <p>4 <b>Q. So if the gun is pointing straight head -- so</b> 5 <b>let's assume that the shooter's arm is straight and the --</b> 6 <b>the barrel of the pistol is pointing forward, if I'm looking</b> 7 <b>at Test 1 Line 3, the 114 inches --</b></p> <p>8 A. Mm-hmm.</p> <p>9 <b>Q. -- that shell casing would kick out to the</b> 10 <b>side 114 inches?</b></p> <p>11 A. Mm-hmm.</p> <p>12 <b>Q. And then the lowest number was 69 inches.</b></p> <p>13 A. That's correct.</p> <p>14 <b>Q. And then let me take you to Test 2. Those</b> 15 <b>distances are -- are different. Can you -- pick whichever</b> 16 <b>round you'd like and explain to me why Test 2 results are so</b> 17 <b>different from test 1.</b></p> <p>18 A. The difference is that the three shots are 19 fired from a single location as quickly as you can squeeze a 20 trigger, and the -- the function of the pistol slide and its 21 ejection mechanism, the volume of the gases that -- that 22 function to move the slide, to reload the next cartridge and 23 to eject the spent cartridge case will be different because 24 you're introducing new explosions or detonations as -- as 25 the other ones are still leaving some effect. So there can</p>

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15:41	<p>1 be some dis -- difference in the way multiple shots interact  2 with one another. It also can be the case that the  3 cartridge cases hit each other.</p> <p>4       <b>Q. Okay.</b></p>	15:44	<p>1 things appear as they do, and we may not be in a position to  2 know what those are.</p> <p>3       <b>Q. I am almost done, Doctor. Let me just review</b>  4 <b>my notes here.</b></p>
15:42	<p>5       <b>So if I look at, say, Round No. 2, I'm now in</b>  6 <b>Test 2 at the top of Page 15.</b></p> <p>7       A. Mm-hmm.</p> <p>8       <b>Q. Am I correct -- am I reading the table</b>  9 <b>correctly assuming that my arm is out straight in front of</b>  10 <b>me, the pistol muzzle is pointing straight --</b></p>	15:45	<p>5       A. Okay.</p> <p>6       <b>Q. Quickly.</b></p> <p>7       <b>I wanted to ask you as a follow-up to a</b>  8 <b>question asked by Attorney Parkins, what is the total amount</b>  9 <b>that you have been paid for your testimony in this case?</b></p>
15:42	<p>11      A. Mm-hmm.</p> <p>12      <b>Q. That the shell kicked out 96 inches behind me</b>  13 <b>and then 38 inches to the side?</b></p> <p>14      A. Well, what -- what this data tells you is not  15 exactly as you phrased it, but it tells you that where --  16 where it -- in reference to where it started where it ended  17 up. It doesn't tell you how it got there. You see what I  18 mean?</p>	15:45	<p>10      MR. PARKINS: Objection to the form.</p> <p>11      THE WITNESS: Yeah, I haven't been paid  12 anything for my testimony.</p> <p>13      <b>Q. BY MS. SULTON: I'm sorry. Let me rephrase</b>  14 <b>it. How much have you been paid for your work on this case?</b></p>
15:42	<p>19      <b>Q. Ah. Okay.</b></p> <p>20      A. It -- it -- it could have hit, rolled and  21 bounced, it could -- and did, in fact, and most of these  22 things, they -- they travel -- they roll, they spin, and the  23 variability -- why we have to be so cautious in reaching  24 conclusions about the position of cartridge cases is because</p>	15:45	<p>15      A. I think the expenses included total about  16 \$75,000.</p> <p>17      <b>Q. And at this point is it over 80,000?</b></p> <p>18      A. I -- I don't know.</p>
15:43	<p>25      you can't isolate a single cartridge case and make any</p>	15:46	<p>19      <b>Q. And you spent one week in Wilmington,</b>  20 <b>Delaware, looking at the car, correct?</b></p> <p>21      A. With my lab assistant, yes.</p> <p>22      <b>Q. And then you've written reports and done the</b>  23 <b>consultation with the defense, correct?</b></p> <p>24      A. A lot of experiments, laboratory work,  25 firearms, setting up targets, et cetera.</p>
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15:43	<p>1 meaningful estimate about anything other than the general  2 area where someone might have been, because of that  3 variability. Not only just the surface but the random  4 nature of some of these events interacting. So it can be</p>	15:46	<p>1       <b>Q. In the last five years, Doctor, is it fair to</b>  2 <b>say that you have earned -- the primary source of your</b>  3 <b>income has been from testifying as a professional witness?</b></p>
15:43	<p>5       one hitting another when more than one round is -- is fired  6 in quick succession, it can be rolling and spinning, and it  7 may depend on if the cartridge case is -- has a rotational  8 force, then depending on whether it lands on its top, it's  9 bottom or its side can influence where it goes.</p>	15:46	<p>4       A. No. I'm not a professional witness, I'm a  5 scientist.</p>
15:44	<p>10      <b>Q. Well, let me -- so is it fair, then, to</b>  11 <b>assume that when we look at some of the pictures that I know</b>  12 <b>that you've seen that were taken by the police department,</b>  13 <b>where they have shell casings circled and then there's a</b>  14 <b>little number marker --</b></p>	15:47	<p>6       <b>Q. Let me rephrase that, sir.</b></p> <p>7       <b>Is it fair to say in the last five years that</b>  8 <b>the primary source of your income has been from serving as a</b>  9 <b>expert in cases that are being litigated?</b></p>
15:44	<p>15      A. Mm-hmm.</p> <p>16      <b>Q. We can't then assume by looking at those</b>  17 <b>pictures that that's where the -- where the person was</b>  18 <b>standing when the shot was fired, all we know is that that's</b>  19 <b>a piece of evidence that's been marked?</b></p>	15:47	<p>10      A. Yes.</p>
15:44	<p>20      A. That is correct. The way scenes are  21 processed, every effort is made or ought to be made to  22 document physical evidence and their presence -- its  23 presence, its location and so forth. But any interpretation  24 of that has to be subject to some sort of scientific  25 process. There may be many explanations for why certain</p>	15:47	<p>11      <b>Q. And your education, your bachelor's degree,</b>  12 <b>your master's degree and your doctorate degree are in the</b>  13 <b>field of philosophy?</b></p>
15:44		14	<p>14      A. Philosophy of science, yes, that's correct.</p>
15:44		15	<p>15      <b>Q. Your bachelor's degree is -- is it a B.S. or</b>  16 <b>B.A.?</b></p>
15:44		17	<p>17      A. It's a B.A.</p>
15:44		18	<p>18      <b>Q. And that is a Bachelor of Arts, correct?</b></p>
15:44		19	<p>19      A. That's correct.</p>
15:44		20	<p>20      <b>Q. And your master's is an M.A., correct?</b></p>
15:44		21	<p>21      A. That's correct.</p>
15:44		22	<p>22      <b>Q. That's a Master of Arts?</b></p>
15:44		23	<p>23      A. That's correct.</p>
15:44		24	<p>24      <b>Q. And your doctorate degree is a doctorate of</b>  25 <b>philosophy?</b></p>

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15:47	1	A. That's correct.	15:52	1 there's a question that can actually be made to go away,
	2	<b>Q. In the field of philosophy?</b>		2 that there really isn't a scientific question there at all
	3	A. That's correct.		3 that needs to be answered and if I can point that out to the
	4	<b>Q. And your dissertation title was?</b>		4 attorney, then they don't need an expert of any kind.
15:47	5	A. Critical intelligence and its development."	15:52	5 <b>Q. Did you ever -- were you ever asked in this</b>
	6	<b>Q. And you retired from Pacific Lutheran</b>		6 <b>case to be an advocate on behalf of any position?</b>
	7	<b>University in the year 2001?</b>		7 A. No.
	8	A. I believe it -- I'm not sure how they count		8 <b>Q. Let's focus a little bit on the chart in your</b>
	9	9 that. I last taught in 1997. I'm not sure how the -- how		9 <b>report, on Pages 14 and 15.</b>
15:48	10	10 that works.	15:52	10 A. Yes.
	11	<b>Q. And you retired from the department of</b>		11 <b>Q. The chart there indicates lateral distance</b>
	12	<b>philosophy, correct?</b>		12 <b>from the slide.</b>
	13	A. That's correct.		13 A. Yes.
	14	<b>Q. Just one moment. I'm almost done reviewing</b>		14 <b>Q. [[Do you recall that?]</b>
15:49	15	<b>my notes, Doctor. I appreciate your patience.</b>	15:52	15 A. Yes.
	16	A. No problem.		16 <b>Q. Were these distances to the right of the</b>
	17	<b>Q. Doctor, do you farm out some of your lab work</b>		17 <b>weapon?</b>
	18	<b>to other labs or other professionals who do forensic work?</b>		18 A. Yes.
	19	A. Only if it is an area that I develop evidence		19 <b>Q. Did any of the shells eject or end up to the</b>
15:49	20	20 about that I don't work in. For example, DNA, I don't do	15:52	20 <b>left of the weapon?</b>
	21	DNA work. I don't do fingerprint analysis. So those would		21 A. No.
	22	22 be put off to others. But in most cases I -- I take on		22 <b>Q. Did you -- in your opinion that the properly</b>
	23	23 cases that apply to my set of skills and training and		23 <b>car was still moving, did you consider the possibility that</b>
	24	24 experience.		24 <b>the shell casings may have ended up north of the properly</b>
15:50	25	<b>Q. Did you farm out any of the work in this case</b>	15:53	25 <b>car and simply rolled downhill?</b>
		78		80
15:50	1	<b>in --</b>	15:53	1 A. Yes, I -- I considered that. Part of the
	2	A. No.		2 caveat or caution that we have in doing any kind of ejection
	3	<b>Q. You did all the work yourself?</b>		3 pattern testing is making sure that you're dealing with
	4	A. I have a lab assistant who helps, but . . .		4 broad areas as opposed to, you know, making too much about
15:50	5	5 MS. SULTON: I am done. Thank you, Doctor.	15:53	5 one cartridge case being in a specific position. So -- so
	6	6 THE WITNESS: Thank you.		6 that I went to the scene and I measured the slope, which was
	7	7 MR. PARKINS: I have just a few questions in		7 approximately seven degrees, I considered that. I
	8	8 redirect.		8 considered the broad areas that these cartridge cases were
	9	<b>Q. Let's follow up on your -- your work as</b>		9 documented to be found, and compared them with what my
15:51	10	<b>consulting for attorneys. Do you consult with attorneys for</b>	15:53	10 results were, and I found none that would indicate that
	11	<b>both plaintiffs and defendants?</b>		11 there's a -- a cartridge case to the north of the front of
	12	A. Yes.		12 the squad car.
	13	<b>Q. Do you limit your practice in any way in that</b>		13 <b>Q. Did you -- you were asked some questions</b>
	14	<b>regard?</b>		14 <b>about the condition of the car at the time you examined it.</b>
15:51	15	A. No.	15:54	15 <b>Do you have any reason to believe that the previous work</b>
	16	<b>Q. Have you ever had occasion to tell an</b>		16 <b>done on the car by the Wilmington Police Department and the</b>
	17	<b>attorney that you cannot assist him or her?</b>		17 <b>subsequent movement of the car after this incident in any</b>
	18	A. Yes.		18 <b>way affects your conclusions?</b>
	19	<b>Q. What causes you to do that?</b>		19 A. No, it doesn't. The fact of the matter is
15:51	20	A. Well, several things might. First would be	15:54	20 that in -- in almost every case there is some issue about
	21	21 if I don't think that my training applies to the issues that		21 handling the evidence, preserving, collecting and storing
	22	22 they recognize as relevant to their case. Secondly, if		22 the evidence. That's a given that we work with.
	23	23 their request is that I become an advocate for a particular		23 The question to address from the scientific
	24	24 position and I can tell sometimes when I'm asked to find X,		24 point of view is does anything in the way the evidence was
15:51	25	25 Y or Z and I will not do that, or if in some cases there --	15:55	25 collected, handled or stored affect the examinations that

	81		83
15:55	1 are being conducted. In the case of -- of bullet holes, for 2 example, the issue is quite different than if it were the -- 3 the presence of sperm heads in -- in a -- in cells. So -- 4 so the -- the appropriate caution has to be applied. If --	15:58	1 <b>Q. And what case was that?</b> 2 A. That was -- I'm trying to think. 3 There was a -- an Arizona case. It should be 4 on my list.
15:55	5 if it looks like the evidence has been contaminated in some 6 irretrievable sense, then documenting that will be the 7 extent of the scientific report that would be produced. But 8 in this case the bullet holes remain unaffected by storage, 9 the removal of the door panels, while it certainly could	15:58	5 <b>Q. Would you mind taking a moment to take a look</b> 6 <b>at the list you provided us?</b> 7 A. There -- 8 <b>Q. I think it starts at Page 30 --</b> 9 A. I don't have that.
15:56	10 mitigate against any gunshot residue testing that -- that 11 might, you know, be done, the blood stains and so forth are 12 not affected by the way this evidence was kept.	15:58	10 <b>Q. 31?</b> 11 A. The other involved a moving train. 12 <b>Q. Was it a car or train?</b> 13 A. A train. 14 <b>Q. All right. So you have done a case involving</b>
15:56	15 MR. PARKINS: Thank you. 16 MS. SULTON: Just a couple of follow-up 17 questions, Doctor, and thank you for your patience. I will 18 be brief. First let me take you back to Page 14 and 15, if 19 I could. I just want to make certain that given the 20 redirect, that I understand these tables correctly.	15:59	15 <b>shooting at a moving train?</b> 16 A. Right. 17 <b>Q. But you haven't done a prior case shooting at</b> 18 <b>a moving car?</b> 19 A. I've -- I've worked the case but not
15:56	20 <b>Q. If I look at Test 1 on Page 14, I am reading</b> 21 <b>this table that says that the lateral distance from the</b> 22 <b>slide, meaning the side distance, could be, based on your</b> 23 <b>testing of -- of the Detective Ciritella's pistol, is as</b> 24 <b>great as 173 inches, and the distance back beyond one's --</b>	15:59	20 <b>testified on the case.</b> 21 <b>Q. And is that case listed here?</b> 22 A. Those are -- the cases that are listed there 23 are cases for which I've given testimony.
15:57	25 <b>or the back of the -- the slide of the gun, is 121 inches,</b>	15:59	24 <b>Q. Yes, sir.</b> 25 A. And the cases that I've worked and written
	82		84
15:57	1 <b>correct?</b> 2 A. Those are the maximums that I detected in my 3 experiments, yes. 4 <b>Q. And then if I look at Test 2, when shooting</b>	15:59	1 reports for is quite a large number that happen doesn't 2 include the testimony. So the Arizona case I'm referring to 3 is a case that I did the work for and produced a report for 4 but I think it -- there is yet to be a deposition if there
15:57	5 <b>three shots from a single location, the greatest distance</b> 6 <b>that you found laterally or to the side is 98 inches, and</b> 7 <b>the greatest distance to the back of the slide of the gun is</b> 8 <b>96 inches.</b> 9 A. Correct.	15:59	5 is one. The other one had settled, they pled, essentially, 6 so there's no testimony. 7 <b>Q. And so --</b> 8 A. But I do have -- have worked those cases.
15:57	10 <b>Q. So we're really talking about a broad pattern</b> 11 <b>that these shells can fly on their own, correct?</b> 12 A. Now, that's a point that -- that needs to be 13 clarified too. These numbers don't represent the flight in 14 the air. They represent where it started and where it	16:00	9 <b>Q. Okay. I'm sorry. Was it the Arizona case</b> 10 <b>with the train or was it the Arizona case with the moving</b> 11 <b>car?</b> 12 A. Moving car, Arizona. 13 <b>Q. And when you did the case with the moving</b> 14 <b>car, was that a case in -- with shots being fired by police</b>
15:57	15 ended. And that could be something like -- just for 16 example, the -- the cartridge case going straight into the 17 ground right where it was fired from and then bouncing, 18 rolling and tumbling and so forth until it reaches its final 19 terminus. So -- but not in the air flight. That's not what	16:00	15 <b>officers at a moving vehicle?</b> 16 A. No. 17 MS. SULTON: Thank you, Doctor, for your 18 time. I appreciate your patience. 19 THE WITNESS: Thank you.
15:58	20 we're talking about. 21 <b>Q. Okay.</b> 22 <b>And then my final question, Doctor, is prior</b> 23 <b>to this case have you done any -- have you testified in any</b> 24 <b>case about bullets shot at a moving vehicle?</b>	16:00	20 MR. PARKINS: Thank you. Nothing further. 21 THE WITNESS: Okay. 22 THE VIDEOGRAPHER: This concludes the 23 videotape deposition of Jon J. Norby, Ph.D. This is Case 1, 24 Volume I -- or Tape 2, Volume I. We are going off the record. The time is 4:00 p.m.
15:58	25 A. Yes.	16:00	25

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16:00 1 Stand by.  
2 (The videotape deposition of Jon J.  
3 Nordby, Ph.D., was concluded at  
4 4:00 p.m.)

16:00 5 ---0---

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